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THE UNIVERSITY OF ALBERTA

PUPIL-TEACHER INTERACTION IN UKRAINIAN BILINGUAL CLASSROOMS

by

© Patricia Korpus Sembaliuk

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH
IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE
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SPRING, 1979

THE UNIVERSITY OF ALBERTA

FACULTY OF GRADUATE STUDIES AND RESEARCH

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research, for acceptance, a thesis entitled Pupil-Teacher Interaction in Ukrainian Bilingual Classrooms

submitted by Patricia Korpus Sembaliuk

in partial fulfilment of the requirements for the degree of Master of Education.

Douglas V. Parker
Supervisor

A.M. Decore

Susan Therrien

Date April 3 1979

ABSTRACT

The main purpose of this study was to examine the process of pupil-teacher interaction in four Ukrainian bilingual classrooms. A further purpose was to describe the relationship between selected process variables and pupil product measures as determined by a Ukrainian language skills achievement test.

The research sample consisted of three grade three-four split classes and one grade three heterogeneous Ukrainian bilingual classrooms in four schools.

The verbal and non-verbal behavior of the teacher along with the identification of the pupil with whom the teacher was interacting were coded by means of an interaction analysis instrument. Recordings of classroom data on a cassette recorder assisted in checking the data which had been coded during the interaction. Frequencies for each category as identified by the instrument were converted to percentages and labelled as variables. Sequences and combinations of these variables were determined in order to obtain a more parsimonious concept of the teaching process.

To obtain product measures, pre- and post-tests using a Ukrainian language skills achievement test were administered to all four classes. The test consisted of five sub-skills which were: review of previously learned material, listening, reading, writing and oral production.

Process results indicated that in all four classes teachers and pupils spoke primarily in Ukrainian and more than in regular classes. Generally the code was restricted in nature and consisted of lower order questions and answers. Other than these similarities teachers were quite diverse in their behavior which was found to be dependent on lesson content and individual teaching style.

Informal discussions were held with the teachers who felt that in addition to verbal interaction, contextual variables, such as split classes and lack of materials also had an effect on their teaching style.

Results of the Ukrainian language skills achievement test indicated that low achievers gained considerably more than high achievers and that total gains were significant in all classes.

In determining relationships between the process and product measures it appeared that high teacher talk in Ukrainian had positive effects on all four classes. Implementation of lower-order question and answers, which stressed basic second language skills, seemed to be optimum procedure for the low achievers, but not for the high achievers, leading the investigator to conclude that optimal teaching behavior requires adjusting curriculum to the level and knowledge of the pupils.

Implications arising from the study were discussed and suggestions for further research were given.

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CHAPTER I

THE PROBLEM

INTRODUCTION

During the past decade in an attempt to improve modern language teaching and learning, attention has been given to individualization of instruction (Streisham 1970, Altman and Politzer 1971, Bockman and Gougher 1971), teaching by objectives (Valette and Disick 1972, Steiner 1970), and to a greater emphasis on cultural concepts as a means of securing increased student motivation (Seelye 1970, Nostrand 1966). Paralleling these concerns there appears to be a move towards a more functional eclecticism in teaching methodology (Grittner 1970). But whatever area or method has been stressed, one can generally conclude that it is the teacher who makes a difference.

> Good teachers seem to know how to make students like learning a second language and to want to continue this study.
> (Moskowitz 1976, p. 135)

What do we really know about teaching? Carroll (1965) suggests that one should be familiar not only with the research specifically directed at modern languages, but also that teachers and those responsible for their preparation be familiar with the whole gamut of research on teaching behavior.

There are, however, conflicting views about research in the area of teacher behavior. Rosenshine (1976) describes the field as new and sparse, while Gage (1960) refers to its literature as overwhelming and unmanageable. Dunkin and Biddle (1974) describe research on teaching as a "young science", while Rosenshine and Furst (1973) describe it as "chaotic, unorganized and self serving". From amongst these diverse opinions, the appearance of Dunkin and Biddle's book, The Study of Teaching, (1974) has provided a source of optimism. In it they provide a model as a potential framework for the integrative study of teaching in a natural setting (Figure 1: 1).

THE MODEL

The model permits teacher and pupil characteristics (presage variables), teacher and pupil classroom behavior (process variables), school and community characteristics (context variables), and a variety of outcome measures (product variables), to be examined in relationship to one another. These four classes are defined as follows:

Presage Variables

These concern those teacher characteristics which may be examined for their effects on the teaching process:

1. Teacher formative experiences.
2. Teacher training experiences which will only affect classroom behavior if traces of these experiences are retained in the teacher's attitude and behavior.
3. Teacher properties which consist of measurable personality characteristics which a teacher takes into a classroom.

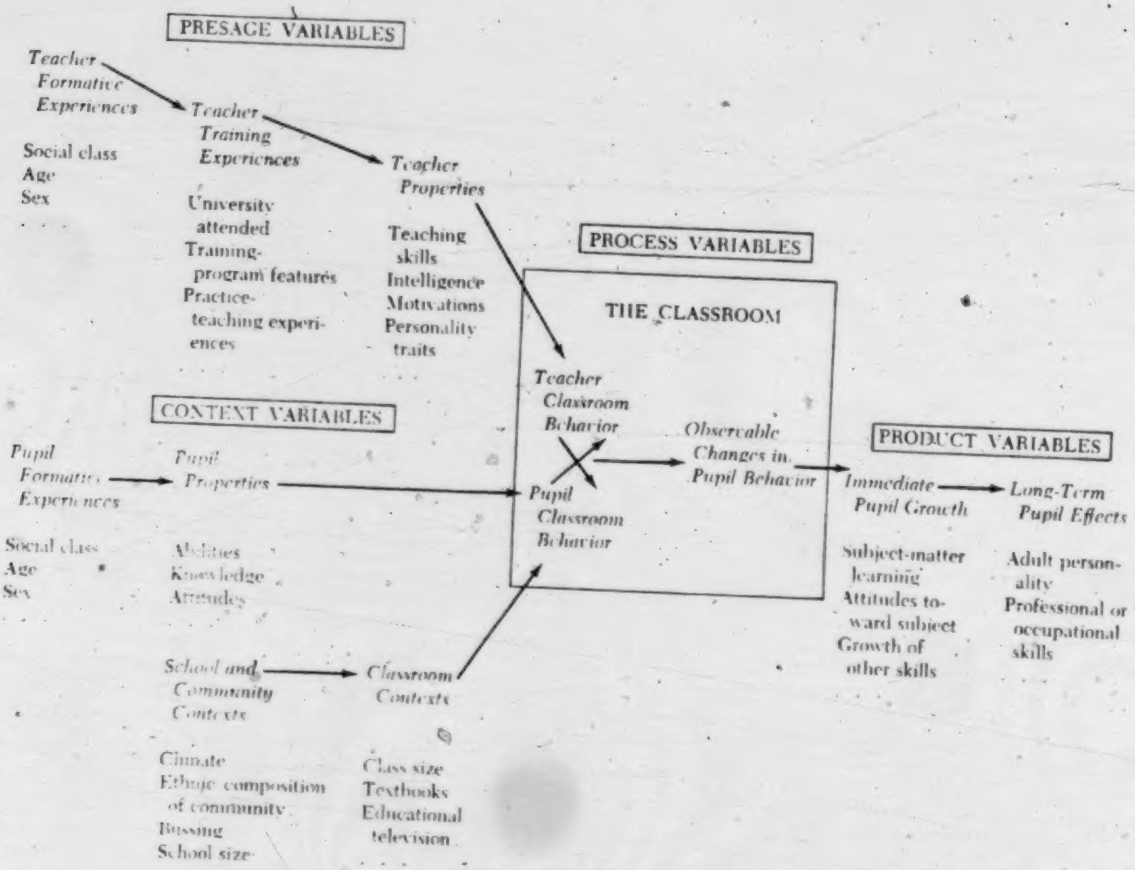
Context Variables

These concern the characteristics of an environment

Figure 1: 1

A MODEL FOR THE STUDY OF CLASSROOM TEACHING

(Dunkin and Biddle 1974, p. 38)


PRESAGE VARIABLES
Teacher Formative Experiences
Social class
Age
Sex
Teacher Training Experiences
University attended
Training-program features
Practice-teaching experiences
Teacher Properties
Teaching skills
Intelligence
Motivations
Personality traits
PROCESS VARIABLES
THE CLASSROOM
Teacher Classroom Behavior
Pupil Classroom Behavior
Observable Changes in Pupil Behavior
CONTEXT VARIABLES
Pupil Formative Experiences
Social class
Age
Sex
Pupil Properties
Abilities
Knowledge
Attitudes
School and Community Contexts
Climate
Ethnic composition of community
Bussing
School size
Classroom Contexts
Class size
Textbooks
Educational television
PRODUCT VARIABLES
Immediate Pupil Growth
Subject-matter learning
Attitudes toward subject
Growth of other skills
Long-Term Pupil Effects
Adult personality
Professional or occupational skills

to which a teacher must adjust, such as pupil properties, socio-economic status of a community, school climate, and actual classroom context.

Product Variables

These variables concern the outcomes of teaching such as achievement and attitude, or those changes which come about in pupils as a result of their involvement in classroom activities with teachers and other pupils.

Process Variables

These variables concern the actual activities of classroom teaching, that is, what pupils and teachers do in the classroom. Since teaching is an interactive process, both teacher and pupil behavior is taken into account.

SUMMARY

The assumption is that effective teaching will be recognized when meaningful relationships can be established between the above mentioned variables. The utilization of designs which pair process information (pupil teacher behavior) with context or product variables is further supported by Medley and Mitzel (1963):

> The proper role of direct observation in research on teacher effectiveness would seem to be a means of learning something about the teaching process and its relationship to pupil learning (achievement). (p. 249)

An understanding then of teaching and learning is fundamentally linked with the knowledge of relationships which exist between teacher behavior and pupil learning (Travers 1969). Such an understanding is essential for the development of teacher education curriculum. Therefore an accumulation of process-product data to enhance the quality of teacher education is needed (Eggert 1977, Dunkin 1976).

PROBLEMS IN TEACHING RESEARCH

Many problems face the researcher who attempts to study teacher effectiveness. One such problem is how student background or formative experiences affect measures of teacher effectiveness. In the International Education Association's (IEA) cross-cultural study of student achievement (Postlewaite 1973), it was clearly highlighted that pupil home-influences (formative experiences) on subjects such as Reading and Social Studies are very powerful in accounting for student achievement, thus leaving little variance to attribute to the influence of the teacher. This led Berliner (1976) to state:

> If teacher behavior in natural settings is to be studied in a correlational manner, it should be studied in those areas of curriculum where we are most likely to be able to attribute an effect to teachers. (p. 9)

An area such as the teaching of modern languages lends itself to teacher effectiveness research, since the second language is not learned at home. As a result formative experiences account for less variance in pupil behavior, thus leaving more variance which potentially can be attributed to teacher effects.

A further problem is the selection of an appropriate instrument for process measurement. Rosenshine (1970) suggests that one identify the objectives of a program, consider the instructional material and procedures, and then identify behaviors or combinations of behaviors which seem critical to the implementation and achievement of objectives. This is also supported by Flanders (1970) who suggests two applications of these activities:

> 1. to help an individual develop and control his teaching activities ... through inservice and preservice.
>
> 2. to discover through research how to explain the variations which occur in the chain of classroom events, and how these relate to educational outcomes. (p. 3)

Since the major objective of modern language instruction is to change the verbal behavior of the student, the predominant activity in the classroom will be verbal in nature and so may readily be observed. The teaching processes, or patterns and strategies are identifiable, and anticipated relationships between observed teacher behavior and student outcomes may be verified.

Individual pupil reactions to teaching behaviors have also become an area for concern in effectiveness research. MacDonald (1972), Brophy and Good (1969), Eggert, Fasano, Muttart (1977), recommend that analytical emphasis focus on the individual student. McEwen (1976) states that:

> ... students may not receive equal opportunity to participate in verbal activities and the teacher can manipulate the performance of individual students by his choice of solicitation and reinforcement. (p. 2)

Therefore additional information on teacher-pupil interaction and the individual learner would prove more fruitful in terms of qualitative and quantitative product assessment.

In order to overcome some of these problems and to facilitate the recommendations of pairing process and product studies, Nutall (1971), Rosenshine and Furst (1973), suggest a descriptive-correlational-experimental loop as a useful framework for the study of teaching. The paradigm contains the following elements.

1. The development of procedures for describing teaching in a quantitative manner.
2. Correlational studies in which the descriptive variables are related to measures of pupil growth.
3. Experimental studies in which the significant variables obtained in the correlational studies are tested in a more controlled situation.

The first two steps, a description of teaching in a quantitative manner related to pupil achievement measures, are implemented in this study which is concerned with classroom processes in four Ukrainian Bilingual Elementary classrooms.

THE UKRAINIAN BILINGUAL PROGRAM

In September of 1974 the Edmonton Public School Board, in response to a formal request from the Ukrainian Bilingual Association, and the Ukrainian Canadian Committee introduced a Ukrainian-English bilingual program. In the initial year, the program was offered in four Edmonton Public Schools and two Catholic Schools. It has since expanded to include Kindergarten to Grade five.

The program is designed so that fifty percent of the instruction time is conducted in Ukrainian and the other fifty percent is conducted in English. Subjects taught in Ukrainian include Ukrainian Language Arts, Social Studies, Music, Art and Physical Education. English Language Arts, Mathematics and Science are taught in English.

The objective of the Bilingual Program is to provide children with the advantages of the regular program plus functional fluency in Ukrainian and a knowledge of Ukrainian culture. Instruction is designed to place equal emphasis on Ukrainian culture and the Ukrainian language.

Parental interest in a specific geographical area, availability of school space, and consent of the principal determine the schools in which the program is offered. Transportation of children where necessary is provided by parents who through Alberta Education's transportation policy receive a grant which is administered by the parent association.

A major role in the program is played by the Ukrainian Bilingual Association (UBLA), a parental body whose function is to maintain a liaison with the School Board and parents with regard to transportation, supplemental cultural activities, publicity which actively seeks students for the program, and matters which concern the general welfare of the students.

Guidelines and a curriculum for the program have been prepared by Alberta Education. Ancillary curricular materials have been prepared by the program teachers. Implementation is left primarily to the discretion of the teachers who meet with the consultant and Supervisor of Second Languages for inservice sessions where they exchange information and provide input for program revisions. Formative evaluation resulting in program and test revisions has been carried out since the inception of the program.

Teacher selection is based on the following criteria:

- an Alberta teaching certificate
- four years of teacher training
- training in Early Childhood Education
- experience in teaching in the early levels
- fluency in Ukrainian (spoken and written)
- a commitment to the bilingual program
- a sensitivity to, and desire to work with, young children

As part of the questionnaire circulated to teachers after the first year of operation, the respondents perceived that two of the most important teacher selection criteria were Ukrainian fluency and a commitment to the program. The commitment indicates a desire on the part of the teacher to improve his or her own language fluency and, in addition, to discover not necessarily new skills, but how to use more wisely skills already known in order to improve pupil achievement.

> ... it is the skill of using the right skill which may need improvement, so that teaching behavior can be adapted to the exigencies of the moment more rapidly and accurately.
>
> (Flanders 1976, p. 168)

THE NEED FOR THE STUDY

To date there has been no systematic observation of pupil teacher interaction and its relation to student outcomes in the Ukrainian Bilingual Program. An analysis of verbal teaching patterns together with identification of individual pupil behavior is needed.

THE PROBLEM

Three major purposes of this study are:

1. To describe teacher-pupil interaction in a Ukrainian Bilingual classroom by means of an observational instrument.
2. To administer a pre- and post-test as an indicator of pupil achievement.
3. To relate observationally derived variables to pupil achievement.

ASSUMPTIONS

1. Teaching and learning involve a large number of interacting factors.
2. Verbal behavior is but one aspect of the teaching process.
3. The collected data is an accurate representation of observed verbal behavior.

LIMITATIONS.

1. This study has taken into account only a small portion of the forces which produce some measurable teacher effect.

2. Only four classes taught by four teachers were involved in the study which is essentially exploratory in nature.

3. The presence of an observer in the classroom raises the possibility that the pupil-teacher verbal interaction may result in atypical interaction patterns.

CHAPTER II

REVIEW OF RELATED LITERATURE AND RESEARCH

INTRODUCTION

> The task of identifying effective teachers, or effective teaching is crucial to teacher education, certification, selection and promotion and ... so far as teaching contributes to the whole social welfare ... to ultimate human survival.
> (Mitzel 1960, p. 1481)

This literature review is divided into three parts: 1) Education in Modern Language Teaching, 2) Methodology, and 3) Interaction Analysis.

EDUCATION IN MODERN LANGUAGE TEACHING

In the early days of research in teaching, rating scales, surveys, questionnaires, and descriptions of teachers by administrators and by pupils as well, were used in attempts to identify specific teacher traits which ultimately would spell success in terms of pupil achievement (Withall, Lewis 1973, p. 687). Determining teacher traits which would lead to identification of successful teaching was also considered to be important among Modern Language educators. This was evident when Freeman (1941) appealed to the profession in the following terms:

> The most important on my list of ideas for the language teacher, is also the most intangible, for it concerns not what he has studied or done, but what he is ... He must possess a rich store of mature knowledge, untiring energy, vigor, contagious enthusiasm for his profession. As a teacher, limitless patience, human-understanding and sympathy. All this we call personality.

With these words he initiated one of the most prolonged and comprehensive examinations of competence that any segment of the teaching profession has ever undertaken (Paquette 1966).

Through the work of the Modern Language Association Foreign Language Program committees were established, studies and surveys were made, and reports were given to the profession (Tharp, 1955; Balakian, 1960; Childers et al, 1961; Paquette, 1966). These studies resulted in two things: the publication of Guidelines for Teacher Education Programs in Modern Languages (Paquette 1966), and the development of the Modern Language Proficiency tests for French, German, Italian, Russian and Spanish.

The guidelines which resulted from an assessment of the profession, pointed up directions for new teaching programs, and presented a comprehensive framework within which new programs could be developed. The guidelines were, however, flexible enough to permit the necessary experimentation and innovation which must precede professional progress. They did not consider classroom performance, but could be considered as the basis for it.

The language proficiency tests, based on a specific rating scale of "minimal", "good" and "superior" ability, (Appendix A) were developed in seven areas of competency: 1) aural understanding; 2) speaking; 3) reading; 4) writing; 5) linguistic analysis; 6) culture; and 7) professional development (e.g. preparation and knowledge of methodology).

Politzer (1966), fully supportive of the language proficiency tests and the guidelines, did however recognize the dichotomy which exists between language proficiency and classroom performance. He stated "that language proficiency would automatically guarantee adequate performance is an assumption ..." (p. 251). He proposed that the training of teachers place more emphasis on methodology and a "practice-centered" program.

Co-workers at Stanford had developed a "technical skills" approach for training teachers whereby specific instructional techniques and procedures that a teacher may use in the classroom were identified. Categories such as: establishing a frame of reference, controlling participation, presenting feedback, achieving closure were established as performance criteria for teachers in training (Gage 1968). These only needed to be refined and applied specifically to the second language teacher.

Hayes, Lambert, and Tucker (1967) devised a research plan which would relate student achievement to policies, principles, and procedures which they believed to be important in developing second language proficiency in students.

The analysis dealt with a rating given to a list of 324 items by 364 members of the N.D.E.A. Institutes.* Several presage variables which were rated as important were:

---

* The National Defense Education Act provided funds for research in second language teaching and for massive teacher upgrading programs which took the form of the N.D.E.A. Institutes.

near native competence in speaking the target language, patience, conscientiousness in lesson planning, encouragement of students, tact during correction, and rapport with students.

Processes considered important were: use of oral drills, use of oral-question-answer exercises in the target language, presentation of authentic cultural information, use of the target language in presenting cultural information.

Product factors rated as important were: testing procedures for listening and speaking skills, and program evaluation based on tests, class performance, and a final examination.

The second step of their plan proposed obtaining a complete descriptive profile of each teacher based on the features established by the ratings in part one. Pre- and post-tests to determine achievement would be given to the students and by means of statistical analysis, profiles and subprofiles which were especially effective in developing language proficiency would be isolated. The possibility of different profiles attaining similar measures of effectiveness existed.

In essence, the descriptive-correlational design was in keeping with the research approaches suggested by Barak Rosenshine and Norma Furst (1973).

METHODOLOGY

Berliner (1976) cites the need for a commonality in descriptive language when discussing the teaching phenomenon. The following section describes the methods, strategies and techniques used in modern language teaching, thereby providing the language to describe modern language classroom events.

Hammerly (1971), Bosco and DiPietro (1970) have summarized the methods of language teaching in terms of the assumptions on which each is based, and procedures used in their implementation (Figure 2: 1). The terms "method", "approach", "procedures" and "techniques" are used here as defined by Anthony (1963).

> Method is an overall plan for the orderly presentation of language material, no part of which contradicts and all of which is based on the approach (p. 65).
>
> I view an approach, any approach, as a set of assumptions dealing with the nature of language, and the nature of language teaching learning. An approach is axiomatic. It describes the nature of the subject matter to be taught. It states a point of view, a philosophy, an article of faith ... something one believes, but can't necessarily prove (p. 63).
>
> Procedures and techniques are implementational and depend on the artistry of the teacher. The effectiveness of a technique must be taken in relation to the method (p. 65).

The grammar-translation method was obviously designed for students who were interested in complex-abstract thinking. However, Rivers (1964) points out:

> The grammar-translation method is not successful with the less intellectual who muddle through making many mistakes over

Figure 2: 1

SUMMARY OF METHODS IN LANGUAGE TEACHING

Assumptions Purposes and Objectives	Grammar Translation	Direct Method	Audiolingual
	-language is graphic -language is a tool for literary research	-language is oral and graphic -purpose - communication	-language is oral and graphic -purpose is communication process of learning-inductive
Skills Stressed	-reading writing and grammar	-listening and speaking	-listening, speaking, reading, and writing -oral before graphic
Pronunciation	-very little, based on spelling	-imitation only	-imitation -drills -dialogues
Vocabulary	-bilingual word lists	-realia, pictures, actions	-realia, pictures, actions
Grammar	-deductive, memorization of rules	-inductive, exposure to oral language only	-induction and deduction -oral drills
Use of Native Language	-target language is learned through the media of the first language	-in the target language only	-as little as possible but where needed
Other		-a functional method emphasis put on the active use of the language in concrete situations	-rule oriented in that it seeks to control the grammar and phonological structure of the target language

> and over again and thus building up cumulative habits of inaccuracy which are difficult to erradicate in a more advanced stage.

A shift to the direct method which has often been called the early stage of the audiolingual approach was a reflection of the behavior-oriented psychological thinking of the times. The behaviorists concluded that all learning consisted of some form of conditioning. B. F. Skinner used the term operant conditioning to describe learning and made it clear that language is no different from other learned behavior when he states:

> In all verbal behavior under stimulus control there are three important events to be taken into account: a stimulus, a response and a reinforcement which are contingent upon each other.
> (1954)

Introduction of drills and dialogues in the direct method resulted in classroom audiolingualism as it is presently used in teaching, supplemented, however, by reading and writing.

Broad comparison studies of methods have generated considerable discussion, but it is unlikely that further comparisons of methods will yield useful insights into modern language teaching. Jakobovits (1969) considers such studies unrealistic, attributing their lack of productivity to the fact that a "method", as usually defined, consists of a large variety of instructional activities most of which remain undefined and unobserved. Needed, therefore, are studies of more specific activities. Medley (1972), also negating the value of broad comparison studies, felt that these types of experiments generally ignore any differences in teacher behavior or at best regard them as a source of error. Chastain (1971), however, cites the need for these studies on the grounds that the researcher can begin with broad methodological studies, then vary selected factors in subsequent experiments and tests.

One such broad comparison study which is considered to be a "classic" in the modern language area, is the Pennsylvania Foreign Language Research Project.

✓

The Pennsylvania Project

The specific objectives of the two year study were to determine which of three second language teaching methods is most effective in achieving each of the four second language objectives, i.e. listening comprehension, speaking fluency, reading, and writing. In addition, an attempt was made to determine which of the three language laboratory systems is best suited economically and structurally to the development of structural and pronunciation accuracy. The final goal was to identify the optimum combination of method and system. (The "system" phase will not be discussed here.)

The three methods as defined by a panel of experts were:

1) traditional with emphasis on reading, writing, translation and grammar analysis.

2) functional or audiolingual skills stressing controlled vocabulary and language structure with emphasis on listening and speaking.

3) functional skills plus grammar skills as in 2) but including grammar analysis.

Instructions and workbooks for each method were developed and teachers participated in workshops and training to establish procedures.

Results showed no difference among the three teaching methods on any skills except reading where the traditional group performed better than the audiolingual group. Student attitudes toward second language learning showed a downward shift and were independent of method. No significant relationship existed between teacher language proficiency scores and class achievement.

Questions were raised about the various product, context, and presage variables as well as the design and interpretation of the study (Steiner 1970), and considerable discussion was based on classroom processes. Several factors which determined the inability of the treatments to distinguish themselves one from the other were identified. Lange (1968) felt that crucial characteristics which distinguish one method from the other were not made clear to the teachers. As a result, they did not always adhere to one method, which resulted in a contamination of the study. Carroll (1970) stated that instrumentation for the observation of methods was inadequate. Moskowitz (1976) felt that teacher observation by means of an interaction analysis system would have provided more fruitful results.

Carroll (1970) concluded his extensive review of this study by saying that

> these kinds of studies support the rather commonplace conclusions that by and large

> students learn precisely what they are taught, and that there is no mysterious transfer between skills.

He expressed a previously mentioned view, that studies of specific processes are more likely to "pay off" in yielding information about effective teaching.

Learning

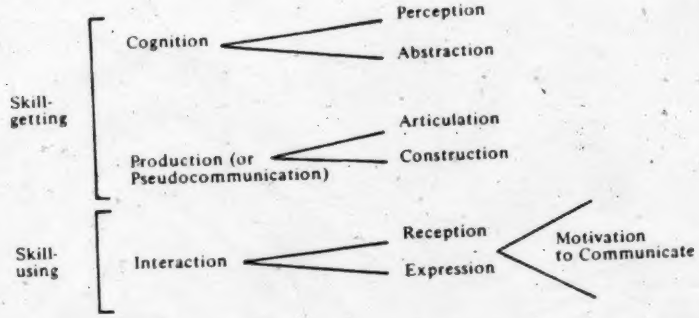
Carroll (1965), contending that learning is a mental process as well as a conditioned one, pointed out that practices in second language teaching seem to be based on one or the other of two implicit theories: an audiolingual theory and a cognitive code theory. The former is characterized as emphasizing the primacy of auditory discrimination and oral production over other aspects of language use and the automatization of such habits. The latter is described as a modern up-to-date translation theory which proposes modern language learning to be a process of acquiring conscious control of the patterns through a body of knowledge.

In a later article (1971) he proposes a synthesis of the two theories and states, "if it is not too flip to do so, we should call this approach cognitive habit formation theory", concluding that language learning involves both conditioning and cognition.

Rivers (1976), with this theory as a basis, proposes a model (Figure 2: 2) for the transition from repetitive classroom practice to facility in spontaneous conversational interchange.

Figure 2: 2

TRANSITION FROM PSEUDOCOMMUNICATION
TO COMMUNICATION


Skill-getting
Cognition
Perception
Abstraction
Production (or Pseudocommunication)
Articulation
Construction
Skill-using
Interaction
Reception
Expression
Motivation to Communicate

She labels the production of speech in the "skill-getting" portion of language learning as pseudocommunication, and actual skill-using as communication. These two areas are not considered to be mutually exclusive and are in constant interaction with one another. In the process of second language teaching and learning, knowledge is acquired by the pupil through drills and dialogues along with perceptions and abstractions. These activities are externally directed by the teacher, and the student is not independently receiving or communicating any messages. Hence the term pseudocommunication. Rivers maintains that the "heart" of the second language teaching-learning process lies in "bridging the gap" between the two areas.

In terms of programming for this type of teaching, Carroll (1974) suggests two parallel streams of instruction, one devoted to exposing the learner to materials containing a relatively uncontrolled variety of elements (grammar and vocabulary) and the other devoted to a rather careful sequencing of instructional content, but not excluding one from the other.

Sampson (1977) suggests an integrated approach for bridging the gap between pseudocommunication and communication, whereby the role of the teacher is to create challenging verbal tasks within the various functions of language rather than to depend completely on structural drills found in textbooks.

Acceptance of the notion that language learning is habitual as well as cognitive has resulted in teachers implementing the best features of each method thereby creating a functional eclecticism in teaching. This represents an attempt to meet the needs of all students (Grittner 1969, Levy 1974, Carroll 1974).

Objectives

It is practically impossible to apply the theories of teaching and learning without looking at the learners' tasks in terms of some form of objectives (Steiner 1972). Both Grittner (1969) and Rivers (1976) caution against defining objectives too specifically. However, teachers should have a clear notion of their intent and procedures for helping the pupil attain the kinds of things he is able to do. Vallette and Disick (1972) give a comprehensive description and taxonomy of subject matter skills which enables the teacher to define objectives and place them into the spectrum of the total teaching situation.

INTERACTION ANALYSIS

> What the profession needs is an analysis of teacher performance in the new type second language program translated into behaviors which can be objectively described. (Birkmaier, 1973, p. 1295)

One way of describing teacher behavior in a classroom is with the use of an interaction analysis instrument. Interaction analysis has been used in research to identify teacher behaviors and relating them to achievement measures, and in teacher training for improving the role of the teacher as a guide in the learning process of his/her pupils.

Descriptive Studies

Mowkowitz (1966) used the Flanders interaction system in a teacher training program to determine if training in interaction would make a difference in: attitudes towards teaching, pupil attitudes toward the student teacher, teaching patterns of the student teachers, attitudes of the cooperating teacher toward the student teacher. Results were positive in all respects.

Discovering that categories of the Flanders system were not amenable to second language teaching observation, Moskowitz developed the FLint (Foreign Language interaction) system. This observation system consisted of the original Flanders categories and included others which were considered to be more pertinent to second language instruction. These additional categories were: "repeats responses verbatim", "corrects without rejection", "directs pattern drills", and "choral responses". An "E" after any category number indicated that the verbal behavior had occurred in English. Using this method for supervision of student teachers, the supervisor is able to discuss the goals the teacher had for the lesson, and is able to determine whether the actual observed behaviors matched the intentions of the teacher. Focus is on the teacher's goals, not those of the supervisor. By seeing what happens in his class a teacher can intelligently decide what should happen in his class. Defensiveness is reduced and supervisory relations and teaching improve, as the teacher becomes his own agent for change and is left equipped to supervise himself when on his own (Moskowitz 1971).

In a later study (1976) Moskowitz gathered descriptive data on two groups of teachers. The first group was identified as outstanding teachers by means of a student questionnaire. The other group designated as typical teachers was a comparison group chosen for the study.

The revised Flint system was used to analyze pupil-teacher interaction. Significant differences occurred in several areas. The study revealed outstanding teachers with:

1) more use of the second language by the teacher and pupils combined.
2) more teacher talk in the second language.
3) more student talk in the second language.
4) more use of praise.
5) more use of personalized questions.

6) more non-verbal information giving (gesturing to convey meaning).

7) less student talk which is off the task.

No data was collected to determine teacher effect on achievement measures.

To differentiate verbal interaction in the target language and in the native language, Wragg (1970) subjected a second language classroom to systematic analysis. Using an adaptation of the Flanders system, ten post graduate students were observed for one, twenty-minute session each. All lessons observed were with classes of eleven, twelve or thirteen year old students who were in their first, second or third year of learning either French or German.

In spite of the small sample and limited observation time, results were interesting.

Teachers talked two thirds more than the students. Teachers talked more in English than in the target language and pupils spoke more in the target language than in English. Praise was given in both languages but criticism was given in English. There were few pupil initiations of questions, and the majority of pupil responses were in reply to teacher questioning.

A distinct contrast between two teachers who were teaching a similar grammar lesson was revealed. Teacher "A" explained in English, with examples in French, and questions in English, and required pupils to respond in French. Teacher "B" used French almost exclusively.

No product data was collected to determine which processes were the most effective.

The Flanders interaction analysis system was used in an observational study of five Grade One and five Grade Two immersion and extended French classes (McInnis and Donoghue 1976). Immersion classes were those where French was used for instruction in all areas, while extended French classes were those where French was used as the language of instruction in one specific subject. The curriculum area selected for observation was ecology.

Results for Grade One immersion and extended classes indicated that the vast majority of all interaction was conducted in French. Teachers spoke more than the pupils. Students in the French immersion classes were almost equally balanced in terms of initiation and response, while in extended classes, student talk in French was largely in the form of response. Teachers in both classes made little reference to student emotions, and tended to use praise and encouragement rather than criticism. Student responses were rather frequently repeated verbatim as opposed to being paraphrased, enlarged upon or summarized. Results for the Grade Two classes were similar to those of Grade One.

Townsend and Zamora (1975) compared verbal and non-verbal interaction between teachers and their assistants, as well as comparing interaction patterns for similar subject matter in Spanish and English. Significant differences between the teachers and assistants were found in both the verbal and non-verbal dimensions.

Teachers tended to use more praise, acceptance and encouragement. Assistant teachers talked more and tended to switch from one language to the other during lesson presentation. Teachers showed a much higher percentage of combined positive non-verbal behavior.

Interaction patterns for similar subjects differed for each language. More questions and responses occurred in Spanish as well as a greater incidence of pupil response followed by teacher acceptance.

Correlational Studies

Using the Flanders interaction instrument, Sister Mary Williams (1973) conducted a study in twelve beginning Grade Nine Spanish language classrooms. Each class was visited four times to collect interaction data. This was followed by the administration of an attitude and achievement test.

Williams sought to determine relationships between predetermined variables such as: the teacher response ratio, use of praise, use of positive reinforcement, use of questioning, use of directed drills and pupil achievement. Results showed that teachers with high frequencies in each of the above mentioned variables tended to be more effective.

A study of successful second language teaching was conducted by Politzer and Weiss (1969). Their research also attempted to determine which teaching behaviors were related to student achievement. Presage variables such as residence in France and proficiency test results were taken into account. Observations of the teachers focused on the area of controlled and free drills. The findings indicated that student achievement was greater in classes where the teachers used free response drill, visual aids and a variety of drills shifting from one type to another. Residence in France and high performance in aural comprehension on the part of the teacher were other factors which seemed to relate to student achievement. The investigators concluded that students performed better with teachers who went beyond the procedures prescribed by the curriculum. They interpreted this to mean that innovation and flexibility are desirable characteristics of second language teachers.

Using the Flanders observation system as well as the modifications proposed by Moskowitz as a basis, McEwen (1976) developed a multidimensional observational category system to describe teacher-pupil interaction in eight Grade Ten French classes. Four teachers participated in the study. Dimensions included in the instrument were verbal function, thought and content. Individual pupils were identified during the course of coding. The verbal dimension function was coded directly in the classroom, while the thought and content functions were added to the classification from audiotapes recorded during the observational sessions. A battery of aptitude, attitude and achievement tests was administered to the students.

The descriptive results indicated that classroom interaction was primarily dyadic. Three predominant teacher instructional patterns were found: teacher questions followed by pupil convergent response followed by unspecified praise; the same type of pattern as above only with a teacher's intermediary reaction to pupil response, and a third pattern consisting of teacher directions followed by discussion primarily of extended divergent student verbalization.

Results indicated a relationship between student verbalization and achievement, little relationship between aptitude and student verbalization, and little relationship between attitude and verbalization.

The relatively few significant correlations between observationally derived variables and student criterion measures verified the complexity of the teaching-learning process. It led McEwen to conclude:

> Statistical analysis of the relationships among isolated variables is not adequate to describe the fundamental diversity of the individual acts which constitute the instructional process. (p. 278)

SUMMARY

In summary, answers to the question of what makes a good teacher have been sought in a variety of ways. Teacher training programs which emphasize classroom performance, isolation of strategies and procedures within methods, and direct observation by interaction analysis have all generated information useful to the practising teacher and researcher. How can evidence of this nature be useful to a teacher? To conclude, a statement by Dunkin (1976) seems appropriate:

> First it can be used to enhance teachers' abilities to conceptualize and therefore to analyze teaching behavior. Second, it should enhance teachers' abilities to synthesize about the effects of their behavior. Third, it should provide teachers with more guidance than they have ever had to make decisions about how to behave toward pupils. Fourth, it can provide a basis for equipping teachers with behavioral repertoires needed to implant decisions they make. (p. 185)

CHAPTER III

PROCEDURES EMPLOYED IN THE STUDY

INTRODUCTION

The main purpose of this study, largely exploratory in nature, was to examine the process of pupil-teacher verbal interaction in four Ukrainian bilingual elementary classrooms. A further purpose was to determine the relationship between selected process variables and pupil product measures.

This chapter outlines the design, identifies the research questions and describes the sample, instrumentation and methodology employed in the collection and preparation of data.

THE DESIGN

In keeping with the recommendations of Dunkin and Biddle (1974), Mitzel (1963), Berliner (1976), Rosenshine and Furst (1973), that investigators of teaching pair process information (teacher-pupil interaction) with product variables (pupil outcomes), a descriptive-correlational model was used as a basis for the study.

Since the small sample limited the use of statistical analysis a description of teaching profiles as related to pupil total gains and sub-skill gains was used.

RESEARCH QUESTIONS

Specifically, the study sought to answer the following research questions:

1. What is the distribution of frequencies and percentages of the process variables?
2. What is the rate of instruction for each class?
3. What is the proportion of teacher talk, pupil talk, and non-verbal interaction?
4. What is the total teacher talk in Ukrainian and English?
5. What is the distribution of Ukrainian teacher talk variables?
6. What is the total pupil talk in Ukrainian and English?
7. What is the distribution of Ukrainian pupil talk variables?
8. What is the teacher question ratio (TQR), the teacher response ratio (TRR) and the pupil initiation ratio (PIR)?
9. What is the total dyadic interaction in each class, and the disbursement of dyadic frequencies among pupils?
10. What are the pre-post achievement test scores, and the gains which occurred between the two tests?
11. What is the relationship between the total mean gain scores, mean sub-skill gains and teacher process variables for each class?

THE SAMPLE

The research sample consisted of three Grade three-four split classes, and one grade three heterogenous Ukrainian-English bilingual classrooms in four Edmonton schools. These particular grades were selected because it was felt that by grades three and four the pupils would have reached a level of oral production in Ukrainian which was past the labelling stage and that their verbalization would include instances of initiation as well as response.

Selection of Teachers

Of the five schools where the program is in operation, four had students in grades three and four. In the first three, these two grades were combined which simplified teacher selection. A preliminary personal contact was made with each of these teachers. The researcher explained that the intent of the study was to explore some patterns of classroom communication in second language elementary classes and to thereby possibly determine how these patterns may or may not relate to pupil achievement. The three consented to participate in the study. In the fourth school, where there was both a grade three and grade four class, the preliminary contact with both teachers resulted in the grade three teacher expressing an interest in participating in the study.

Lesson Content

It was not possible to ask teachers in planning the lessons to be observed to confine their teaching to only one designated goal for the purpose of uniformity in the study, for it would not have been typical of what teachers do under normal circumstances. The idea was to gain insight into what Ukrainian bilingual teachers do as they teach. As a result, the request was that they teach lessons which would involve oral production in Ukrainian. The researcher could thereby note the various processes used in achieving this goal. How the teachers did it was a matter of personal choice.

The following indicates the types of lessons observed.

1. Introduction of a grammatical structure.
2. Presenting new material orally (i.e. a dialogue, vocabulary, discussion of pictures, weather, etc.).
3. Dealing with the skill of reading and any phase of it (i.e. discussion of what has been read, syllabication, phoneme-grapheme correspondences, oral reading, etc.).

Table 3: 1

LESSON TYPES AMONG TEACHERS

Teacher	Grammatical Structure	New Material	Reading
1	x	x(2 sessions)	
2		x(2 sessions)	x
3	x	x(2 sessions)	
4		x	x(2 sessions)

The Pupils

The classes differed in numbers and, as previously mentioned, were heterogeneous in nature. Table 3: 2 indicates the distribution of pupils among classes.

Table 3: 2

DISTRIBUTION OF PUPILS AMONG CLASSES

Class	Grade 3	Grade 4	Total
1	4	8	12
2	10	9	19
3	13	10	23
4	25		25
Total			79

INSTRUMENTATION

Overview

The decision was made to use an instrument which would code classroom interaction; to give pre-post tests using the Ukrainian bilingual testing program, and to administer an aptitude test.

Classroom Interaction System

The Verbal Function aspect of the McEwen L2P System (1976) was used for the interaction observations (Figure 3: 1). This system is based on Flanders Interaction Analysis System (1970) and was modified especially for second language classroom observation. As in the Flanders System, the L2P System is divided into Teacher Talk, categories 1-7, Pupil Talk, categories 8-9, and non verbal activity, category 10, and their subscripts. Three modifications were made in the instrument. Categories 6a - request for choral verbal response, 8a - choral verbal response, 4i question after a request for verbal participation, were added. As in the McEwen System, the identification of individual pupils beside the category number was included. By coding each transaction every three seconds, or by event, on to a prepared coding sheet (Appendix B), frequencies for each behavior and individual student identification were derived.

Figure 3: 1

THE MCEWEN L2P SYSTEM: VERBAL FUNCTIONS (1976)

(as modified by the researcher)

1. Acknowledgement of feelings: In a non threatening way, accepting, reflecting, discussing, referring to, identifying with or communicating, past, present or future feelings of the students.

2. Praise or Encouragement: Praising or encouraging student verbalization or behavior. Jokes which are not at the expense of anyone.

2r. Repetitive Praise: Repeating verbatim the correct answer uttered by a student.

3. Reiteration of a student idea: Using the ideas of a student or students. The ideas are rephrased by the teacher but are still recognized as student contribution.

3c. Clarification of a student idea: Asking for further clarification, probing for more information or trying to get a student to focus his ideas.

3x. Extension of a student idea: Getting the student to develop or extend his ideas. Teacher extension of an idea may be included if in the context of the student's original idea.

4. Convergent question: Asking a factual question with the intent that the student produce a predetermined answer.

4i. Teacher names pupil, then asks question.

4d. Divergent question: Asking broad open questions, which require the student to formulate his own response. As the teacher makes use of the responses, moves to categories 3, 3c, 3x.

4p. Personal question: Asking a student a question about his own personal experience. Relating the content under discussion to a student's personal life.

5. Gives Information: Giving information about content, culture, grammar, etc.

5b. Belief or Opinion: Relating opinions, beliefs or anecdotes to the students.

5c. Correcting: Correcting an incorrect student student response without rejection.

5p. Procedure: Presenting information about procedure. No student verbalization is anticipated.

Figure 3: 1 (continued)

6. Verbal Directions: Giving directions, commands, or requests for verbal participation.
6a. Request for choral response.
6b. Behavioral Directions: Giving commands or requests for behavioral participation.
7. Verbal Criticism: Criticizing a student's response.
7b. Behavioral Criticism: Criticizing a student's behavior.

8. Convergent Response: Student has little or no choice in his response, since the answer is predictable from the question asked.
8a. Choral Response.
8q. Convergent Question: Asking a question as directed by the teacher.
8r. Pupil reads.
9. Divergent Response: Responding to the teacher or initiating the communication. Student expresses his own opinion, reactions or feelings.
9q. Divergent Question: Asking a question which the student initiates himself or for which he has the choice of selection.
9c. Student to Student Assistance: Assisting another student with his verbalization.
9E. Comment in English: Making a comment in English which may or may not be disruptive to the class.

10. Non Verbal Activity: Pauses in the interaction, laughter, and periods in which non verbal interaction occurs.

A subscript (E) was added after each category if it occurred in English.

Pre-Post Test

The Ukrainian Language Skills Achievement Test (referred to hereafter as ULSAT) was used for the pre-post testing. ULSAT was developed by the program teachers and consultants from the Edmonton Public and Edmonton Catholic School systems with the assistance of a test consultant from the Edmonton Public School Board. It was designed to reflect the goals and content of the program and has been standardized and normed for the population in the program. Both the grade 3 and grade 4 tests consist of two parts: part 1 which is group administered by the classroom teacher and part 2 which is individually administered. In this instance part 2 was given by the researcher. Analysis of the test is facilitated by marking responses directly on to a computer coding sheet (Appendix B). A manual giving directions for test administration is provided for the teacher and individual examiner.

The manual accompanying the test describes the instrument in the following fashion.

Description of Test Grade 3

The test is divided into 15 clusters or skill areas as follows:

1. Group Administered - by classroom teacher

PART ONE - Review and Listening

	TITLE	QUESTIONS
Cluster 1	Reading Readiness - Beginning Sounds	1-6
Cluster 2	Reading Beginning Sounds Ending Sounds	7-18
Cluster 3	Silent Reading	19-24
Cluster 4	Listening Comprehension Riddles	25-33

PART TWO - Reading

Cluster 5	Sequencing	34-39
Cluster 6	Synonyms, Antonyms	40-52
Cluster 7	Prepositions and Pronouns	53-58
Cluster 8	Silent Reading - Details	59-64
Cluster 9	Silent Reading - Main Idea	65-70

PART THREE - Writing

Cluster 1	Dictation of Words, phrases and sentences	71-81
Cluster 2	Written Responses to Noun Riddles	82-87
Cluster 3	Writing Descriptive Sentences	88-93
Cluster 4	Creative Written Response to Pictures	94-99

2. Individually Administered

PART FOUR - Oral

Cluster 5	Oral Reading	100-115
Cluster 6	Oral Response Using Picture Stimulus	116-135

Analysis Grade 3 Test

Questions for parts 1 and 2 are multiple choice and are marked A, B, or C on the computer coding sheets (Appendix B). Scoring for the individually administered portion will be described under procedures.

Description of Test Grade 4

The test is divided in 12 clusters or skill areas as follows:

	TITLE	QUESTIONS

1. Group Administered - by classroom teacher

PART ONE

Cluster 1	Review - Reading Readiness Decoding Skills	1-7

Cluster 2	Review - Reading Comprehension Stories and Riddles	8-12
Cluster 3	Review - Listening Comprehension - Stories and Riddles	13-21
Cluster 4	Listening Comprehension	22-29
Cluster 5	Reading - Decoding	30-41
Cluster 6	Reading Comprehension Literal Comprehension Vocabulary Skills	42-56
Cluster 7	Reading Comprehension 1. Inferential Comprehension 2. Critical Comprehension	57-71

PART TWO - Writing

Cluster 1	Writing Sentence Dictation	72-86
Cluster 2	Writing Scrambled Sentences	87-96
Cluster 3	Creative Writing	97-111

2. Individually Administered

PART TWO (Continued)

Cluster 4	Oral Reading 1. Poetry 2. Prose	112-125
Cluster 5	Oral Response Using Picture Stimulus	126-140

Analysis Grade 4 Test

Questions for part 1 are multiple choice and are marked A, B, or C on the coding sheet. For part 2, cluster 1, each sentence is worth three marks. Criteria are, grammatical structure, spelling and punctuation. A is assigned if the criteria are met, and B if they are not. For part 2, cluster 2 (writing), each sentence is worth two marks. Criteria are grammatical structure and punctuation. A is assigned if the criteria are met and B if they are not. Cluster 3, creative writing, requires that the pupil write five sentences using the given word. Three marks are assigned per sentence. Criteria are correct usage of the word, grammatical structure and punctuation. A or B is assigned as in the previous clusters. Scoring of the individually administered portion will be described under procedures.

The Aptitude Test

Since aptitude is a personal trait considered to be stable and not readily amenable to change (Cronbach and Furby 1970), regardless of teacher process, the Elementary Modern Language Aptitude Test (hereafter referred to as EMLAT) was administered to each student in order to give an indication of probable success in learning a second language. The results of this test were to be used to adjust the pupil achievement scores thereby providing a more accurate indication of teacher effect.

EMLAT, an outgrowth of an earlier Modern Language Aptitude Test for adults (Carroll and Sapon 1959), was designed for grades three to six. The test is divided into four parts which appear to measure the following abilities:

1. Sound-symbol associations (hidden words)

e.g. apl ☐ a month of the year
☐ a fruit
☐ lazy
☐ a boy's name

pupils place an x in the corresponding square

2. Sensitivity to grammatical structures (matching words)

e.g. Henry THREW the ball

Sally rides a bike
☐ ☐ ☐ ☐

pupils place an x in the square which corresponds to the capitalized word

3. Ability to hear speech sounds (finding rhymes)

e.g. PART shirt ☐ heart ☐ party ☐ past ☐

pupils place an x beside the word that rhymes with the capitalized word

4. Memory component (number learning)

The pupil learns the names of numbers in an artificial language and after some practice in recognition and putting numbers together listens to new numbers in the new language.

A booklet is provided for each student, and the test is administered by a pre-recorded magnetic tape. Testing time is approximately one hour.

COLLECTION OF DATA

Overview

Collection of data consisted of four phases: a pre test (ULSAT) which was given in early October; administration of EMLAT given shortly thereafter; process data observations which were collected in February and March and a post test (ULSAT) which was given in the latter part of May.

The following section deals with data collection for each phase of the study.

ULSAT

Administration of ULSAT was carried out as part of the regular bilingual testing program for the Edmonton Public

School Board. Prior to the commencement of the individual testing by the researcher, the classroom teachers had given the group-administered portion to the pupils. The researcher was provided with a room in each of the four schools where the children were individually tested. Procedures were similar for all classes.

Individual Testing Grade 3

Cluster 5 - Oral Reading Questions 100-115

Pupils were required to read two short stories consisting of four sentences each (Appendix A). Opportunity was given for the subject to scan the sentences and after 30 seconds the researcher asked that he or she begin to read.

Scoring

Each sentence received two marks, one mark for articulation and one mark for intonation.

Cluster 6 - Oral Response Using Picture Stimulus Questions 116-135

The subject was requested to tell the evaluator three similarities and seven differences between two pictures.

Scoring

"A" was marked on the scoring sheet for correct replies and "B" was marked for incorrect replies. Two marks were allotted for each reply if the response was a complete grammatically correct sentence.

e.g. question #116 - A (1 mark)
117 - A (1 mark)

If the student's response was partially correct, that is not a complete sentence or grammatically incorrect, he received 1 mark.

e.g. question #116 - A (1 mark)
117 - B (0 mark)

If the response was both incomplete and contained grammatical errors, or was not even attempted, no marks were received.

e.g. question #116 - B (0 mark)
117 - B (0 mark)

Individual Testing Grade 4

Unlike the grade 3 test, all directions were given in Ukrainian.

Cluster 4 - Oral Reading Poetry and Prose Questions 112-125

a) Poetry: Questions 112-115

The pupil was given the opportunity to read the poetry selection silently and then was asked to read it aloud (Appendix A).

Scoring

"A" was scored on the coding sheet for each line if it was read without pauses, or hesitation, and with correct word identification. If the subject failed to meet any of these requirements, "B" was scored on the sheet.

b) Prose: Questions 116-125

The pupil selected one story out of a choice of three to read aloud (Appendix A). No time was given for silent reading.

Scoring

"A" was scored for questions 116,117 and 118 if the pupil read without pauses or hesitation and correct intonation. "B" was scored for questions 119-125 for any errors in pronunciation. If the student made fewer errors than seven in pronunciation, "A" was marked for the remaining questions up to 125.

Cluster 5 - Oral Response Using Picture Stimulus

Questions 126-140

A picture of Ukrainian Christmas Eve was shown to the pupils. The following instructions were given by the evaluator:

> "Using five complete sentences, tell me about this picture. Tell me what you see, and also something about the customs connected with the holiday."

Sentences were written down as the pupil spoke and marking was derived from the language samples.

Scoring

Three marks were allotted per sentence. "A" was marked if the subject attempted to reply, if the grammatical structure was correct and if appropriate vocabulary was used.

The completed tests were returned to the research division of the Edmonton School Board.

EMLAT

The aptitude test was administered on a group basis. At the end of the first half of the test, the children were given a break to stretch and walk around their desks. The second half of the tape was played and the test was completed in approximately 70 minutes.

Interaction Data Collection

A training period of approximately four weeks was undertaken by the researcher and another individual using the following procedures:

1. Familiarization with the Flanders Interaction System.
2. A training tape and manual were studied and category coding was discussed. (Moskowitz 1970)
3. An audio tape was made in a non-study classroom which permitted further category discussion and practice.

Permission was received from the Edmonton Public School Board to enter the classrooms where preliminary contact had been made with the teachers. Teachers 2, 3 and 4 were observed for two, 20 minute sessions and one 30 minute session; while teacher 1 was observed for two 30 minute sessions and one 20 minute session. This discrepancy in time observation was a result of the nature of the lesson being observed. Coding took place over a period of three weeks.

Categories of the verbal function of the L2P System and the individual student who verbalized were written on to a coding sheet (Appendix B). A sequence of observations appeared as follows:

4 - Teacher asks the class a question
6 - John: Teacher requests verbal response from John
8 - John replies
5c- Teacher correction of pronunciation error
8 - John repeats the error correctly
2 - Teacher praises John

Administration of the EMLAT as well as the pre-test facilitated the task of learning each child's name. As a result, only a brief familiarization period in each class was necessary. A seating plan was provided in the event that a name had been forgotten by the researcher.

As well as using coding sheets to record the observations, a Sony TC-55 cassette tape recorder along with a Sony Electret condenser microphone ECM - 250 was used to tape the sessions. Each evening following data collection, tapes were replayed and coding rechecked. The second individual replayed the tapes in the presence of the researcher. As suggested by Bailey (1975) comparisons were made and after discussion of discrepancies a consensus was reached as to category classification.

PREPARATION OF DATA

Overview

This section deals with the preparation of data collected with each instrument and how it was used to describe product-process relationships.

ULSAT

Pupil achievement tests were tabulated by the Research Division of the Edmonton Public School Board. Individual achievement scores for each sub-skill as well as total scores, means and standard deviations were provided for the researcher. Using these results, a two tailed t-test was performed to determine whether the total gain and sub-skill gain were statistically significant. The computer services of the University of Alberta Faculty of Education were employed in this regard.

EMLAT

An analysis of co-variance of achievement scores adjusted for aptitude indicated that no significant difference appeared in the adjusted pre-post test means. Therefore, the EMLAT scores were disregarded and the ULSAT raw gain scores were used as the product measure.

Interaction Data

Total frequencies for each category were calculated from the original data sheets. Upon examination of the large number of frequencies in category 10, it was decided to recode that particular classification from the tapes into the following categories:

10i - pauses in the interaction
10w - teacher writes on the board
10t - pupil tasks
10l - laughter
10p - teacher shows picture
10m - teacher mimes
10c - confusion

The majority of discrepancies in coding appeared in variables 3, 3c and 3x. After discussion with the other individual it was agreed that in the context of this study, reiteration and extension of student ideas were synonymous with clarification. The decision was made to collapse categories 3, 3c and 3x.

Frequencies of verbal interaction categories, each of which represents a quantitative process variable, were calculated and converted to percentages in order to establish a baseline for descriptive purposes.

Dyadic Data

Teacher-pupil individual contacts were identified from the raw data. Frequencies for each variable for each pupil were placed on individual pupil tally sheets (Appendix B) and then transferred to a class matrix and totaled. These frequencies were used to compare the range of questioning among pupils in each class and to indicate where specific teacher interactions occurred.

Informal Data

Following preliminary calculations of frequencies and percentages, informal discussions were held with the teachers regarding the results of the processes which occurred in the classroom. Comments applicable to classroom interaction with the pupils were incorporated with the description of classroom process and product relationships.

SUMMARY

The recommendation that a descriptive-correlational model be used in the study of teaching began this chapter.

The research questions were stated, the sample was described as well as the content of each lesson observed. The instrumentation section outlined the nature of the classroom interaction system, as well as that of the achievement and aptitude tests.

Procedures for collection of the data as well as preparation of the data were explained.

CHAPTER IV

ANALYSIS AND INTERPRETATION OF THE FINDINGS

INTRODUCTION

This chapter presents the findings as related to the research questions stated in Chapter III. Part One answers questions one to nine which refer to the processes* which occurred in the four classrooms. Part Two answers questions ten and eleven which refer to pupil achievement and gain scores as related to the sub-skill areas in the achievement test, as well as with the teaching processes derived in Part One.

CLASSROOM PROCESSES

Questions One to Three

Responses to questions one, two, and three provide a description of teaching in a quantitative manner. These results provide a basis for the derivation of various processes which occurred in each class. Frequencies of verbal interaction, the rate of instruction and the proportion of teacher and pupil talk were determined from the collected data. To extend this base, some non-verbal observations were made.

Question 1

> What is the distribution of frequencies and percentages of the process variables?

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* A full description of each process variable is found in Chapter III, p. 31.

Table 4: 1 summarizes the process variables observed in the study. Total frequencies and percentages for each variable in each class are given, as well as the mean percentages and overall totals.

Findings indicate that there was little difference among classes in total frequencies which were 1,650, 1,650 and 1,737 for classes 2, 3 and 4 respectively. The additional ten minutes of observation in class 1 which was due to lesson content (Chapter III, p. 33) accounted for the higher total of 2,266 frequencies for that class.

The mean percentages indicate that the most frequent behaviors were found in variables 4 (convergent questions) 7.13 percent, 6 (requests for verbal response) 7.13 percent, 8 (convergent response) 11.33 percent, 3 (clarification of student response) 13.29 percent, and 10i (pauses in the interaction) 11.47 percent.

Inspection of the raw data showed a predominant 4-6-8-3 question-answer pattern (question (4) - request for verbal response (6) - convergent response (8) - clarification of response (3)). Although mean percentages for variables 8q (pupil convergent question .17 percent, 8a (choral response) 3.57 percent, and 6a (request for choral response) 2.01 percent, were low, additional patterns of 4-6a-8a (question (4) - request for choral response (6a) - choral response (8a)) and 6-8q-8, hereafter referred to as directed discourse, (teacher requests pupil A to ask pupil B a question (6) - pupil A asks pupil B (8q) - pupil B responds (8)) appeared in the raw data for class 1.

Table 4: 1

TOTAL INTERACTION FREQUENCIES IN EACH CATEGORY

Category Number	Class Number 1		2		3		4		$\bar{X}\%$
1 Feelings	2	.09	0	0	0	0	0	0	.02
2 Praise	107	4.72	70	4.23	69	4.16	82	4.72	4.50
2r Repeats	67	2.95	28	1.69	36	2.17	41	2.36	2.35
2E Praise	2	.08	1	.06	3	.18	1	.05	.09
2rE Repeats	11	.48	0	0	0	0	0	0	.15
3 Clarification	248	10.94	194	11.75	244	14.79	285	16.40	13.29*
3E "	37	1.63	23	1.39	11	.66	4	.23	1.02
4 Convergent Question	115	5.07	109	6.60	167	10.12	130	7.48	7.13*
4E "	2	.08	8	.48	2	.12	2	.11	.19
4d Divergent Question	10	.44	11	.66	45	2.71	18	1.03	1.15
4dE "	0	0	0	0	1	.06	1	.05	.03
4i Pupil Question	69	3.04	65	3.93	49	2.96	72	4.14	3.49
4pE "	0	0	0	0	0	0	0	0	0
5 Gives Information	37	1.63	23	1.39	194	11.72	98	5.64	4.80
5E "	8	.35	3	.18	0	0	9	.51	.27
5b Gives Belief	4	.17	4	.24	8	.48	0	0	.22

Table 4: 1 (continued)

5c Correction	83	3.66	155	9.38	26	1.50	35	2.01	4.09
5cE "	5	.22	2	.12	0	0	0	0	.09
5p Procedure	40	1.76	12	.72	22	1.32	32	1.84	1.45
5pE "	0	0	13	.78	0	0	0	0	.19
6 Request for Response	151	6.66	118	7.15	160	9.70	92	5.29	7.13*
6a Choral Response	73	3.22	40	2.24	17	1.02	17	1.97	2.01*
6b Behavioral Response	32	1.41	16	.96	67	4.04	92	5.29	2.83*
6bE "	0	0	1	.06	0	0	0	0	.01
7 Verbal Criticism	0	0	0	0	0	0	0	0	0
7b Behavioral Criticism	9	.39	23	1.39	4	.24	6	.34	.57
7bE "	0	0	0	0	0	0	0	0	0
8 Convergent Response	199	8.78	322	19.50	123	7.43	184	10.59	11.33*
8a Choral Response	136	6.00	52	3.14	35	2.11	38	3.35	3.57
8q Convergent Question	13	.57	0	0	0	0	0	0	.17
8r Reading	71	3.13	68	4.11	7	.42	111	6.39	3.52
8E Convergent Response	79	3.48	15	.90	38	2.29	10	.57	1.89

Table 4: 1 (continued)

9 Divergent Response	136	6.00	53	3.21	89	5.37	7	.40	3.90
9E "	29	1.27	14	.84	12	.72	1	.05	.76
9c Pupil to Pupil	10	1.44	7	.42	2	.12	2	.11	.28
9cE "	3	.13	5	.30	3	.18	0	0	.15
9qE Divergent Question	2	.08	8	.35	0	0	0	0	.13
9q "	53	2.33	2	.12	0	0	0	0	.75
10i Pauses	341	15.05	148	8.96	119	7.21	230	13.24	11.47*
10w Writes on Blackboard	3	.13	0	0	14	.84	76	4.37	1.27
10t Pupil task	15	.66	0	0	72	4.35	45	2.59	1.80
10l Laughter	19	.83	21	1.27	0	0	0	0	.54
10p Picture	8	.35	11	.66	0	0	12	0	.42
10m Mime	9	.39	6	.36	11	.66	4	.23	.41
10c Confusion	28	1.23	0	0	0	0	0	0	.38
Total for All Categories	2266		1650		1650		1737		

* Highest frequencies and percentages

The 4-6-8-3 pattern which was evident in the raw data of all four classes indicated that question-answer was the predominant form of discourse. Teachers demonstrated a tendency to clarify student statements by paraphrasing or repeating verbatim rather than elaborating upon what the student said. The 6a-8a and 6-8q-8 patterns which emerged from the class 1 data indicated that audiolingual habit formation drills were operational in this class.

Question 2

What is the rate of instruction for each class?

Repetition and question-answer discourse frequently tend to create boredom amongst students in second language learning. In order to alleviate this tendency specialists in methodology recommend that the verbal discourse move fairly rapidly. It was therefore useful to determine the rate of instruction for each class.

The rate of verbal instruction was calculated by dividing the total number of frequencies in variables 1 to 9 by the number of minutes observed in each class. As indicated in Table 4: 2, observations per minute were 26, 24, 24 and 23 for classes 1, 2, 3 and 4 respectively.

In all four classes the instruction proceeded faster than the three second interval indicating that some events were less than three seconds in duration. For example, a request for verbal response was coded 6-John. If this was followed by a short convergent response (8) and then verbatim repetition (2r), the total interaction would not necessarily take nine seconds. This implies that teachers did attempt to keep the classroom discourse moving at a fairly rapid rate.

Table 4: 2

RATE OF INSTRUCTION
CLASSES ONE TO FOUR

	Class Number			
	1	2	3	4
Total Frequencies Categories 1 - 9	1843	1464	1439	1370
Time Observed in Minutes	70	60	60	60
Rate of Instruction (events per minutes)	26	24	24	23

Question 3

What is the proportion of teacher talk, pupil talk and non verbal interaction?

Since the objective of second language teaching and learning is for pupils to gain functional fluency in the second language, pupil talk in the target language is essential. Therefore, determining the quantity of teacher and pupil talk in the target language provides information regarding the achievement of this objective. As well, the increasing importance of the non-verbal mode of communication as long recognized by anthropologists, sociologists and psychologists is now receiving attention from bilingual educators (Townsend and Zamora 1975, Moskowitz 1976).

It seems appropriate therefore to quantify this variable and briefly to delineate it in order to extend the verbal classroom profile which is indicated by pupil and teacher talk.

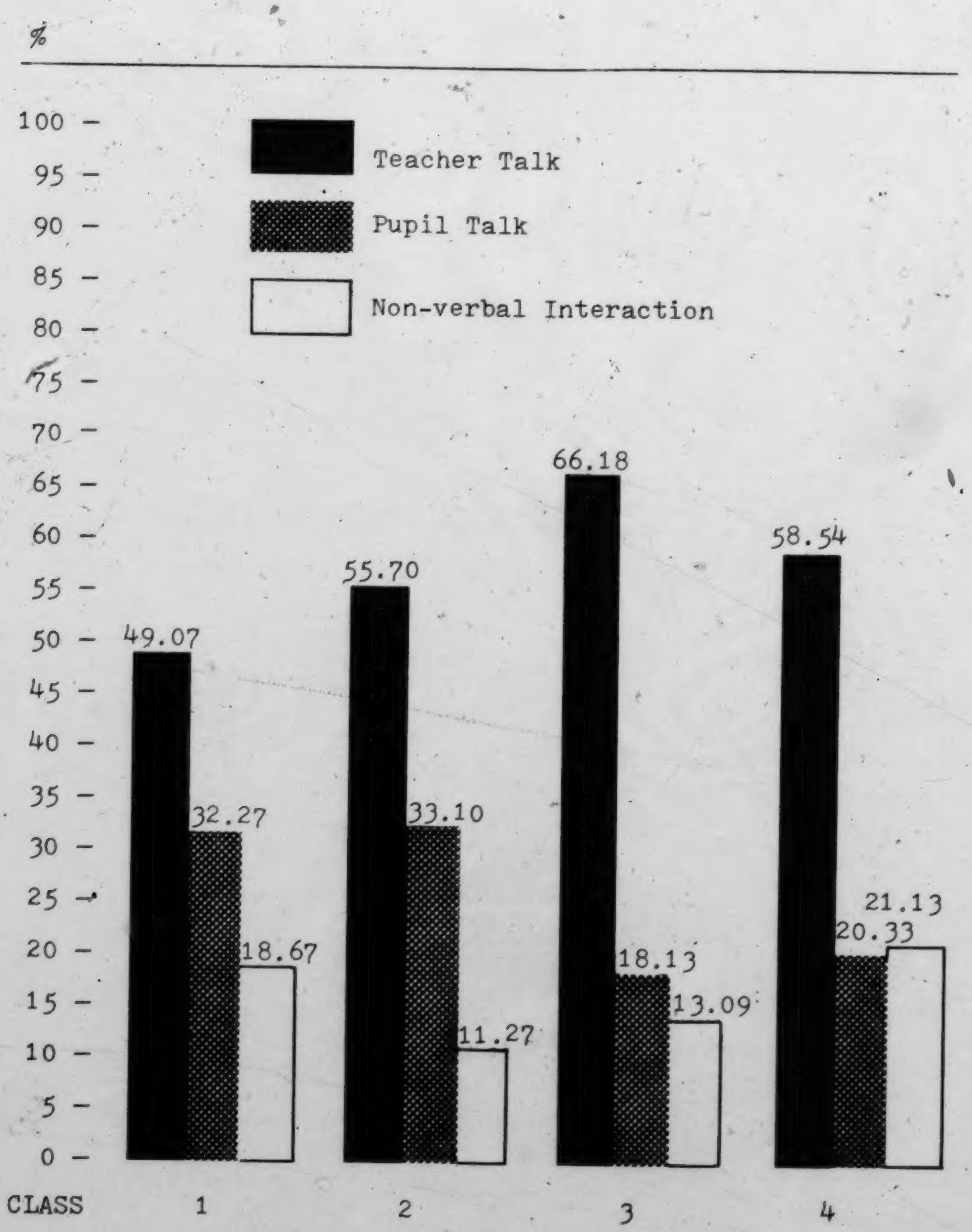
Frequencies for teacher talk, pupil talk and non-verbal interaction were calculated and converted to percentages. Figure 4: 1 represents the results of these variables. Comparisons are made with findings from regular classrooms.

While research in regular classes (Flanders 1970) indicates that on the average teachers talk 60 percent of the time, pupils talk 20 percent of the time and that non-verbal interaction occurs 20 percent of the time, results for the three variables in this study indicated that teachers 1, 2 and 4 spoke less than would be expected in a regular classroom, while teacher 3 spoke more. Pupils in classes 1 and 2 spoke more than average, pupils in class 3 spoke less and pupils in class 4 spoke about the same amount. This is more in keeping with the results of a study by Donoghue and McInnis (1976) which compared grade one French immersion and extended classes. They found that the teachers in their study spoke less and the pupils more than regular classroom pupils.

In terms of non-verbal interaction, classes 1 and 4 were similar to regular classrooms while classes 2 and 3 were less than average. The latter results were similar to a study by Moskowitz (1976) who found that non-verbal interaction occurred less frequently in a Spanish bilingual class than in a regular classroom.

Figure 4: 1

TEACHER TALK, PUPIL TALK, AND NON-VERBAL INTERACTION



Although the focus of this study was on verbal interaction, a brief description is needed of the non-verbal variables in order to obtain further information about each teacher and classroom procedure.

Table 4: 3 indicates the mean percentages for each non-verbal variable. There was little laughter (10l), direct use of pictures (10p), miming (10m), and minimum confusion (10c). The highest mean percentages were found in: pauses in the interaction (10i), teacher writes on board (10w) and student tasks (10t).

The nature of non-verbal behavior varied among classes. Differences within the variables with the highest percentages are found in Figure 4: 2. Pauses in the interaction (10i) which were found to occur the most frequently in class 1 resulted from pupils going to the front of the class and presenting a dialogue about a picture. Teacher 4 who wrote on the board (10w) most frequently, felt that this visual display of words was a type of reinforcement. The higher frequency for pupil tasks (10t) in class 3 resulted from the type of lesson content which included reading of new material as an aide to vocabulary development.

Summary of Questions 1, 2 and 3

General findings for questions 1, 2 and 3 indicated that in all four classes teachers and pupils were engaged in a fairly rapid question-answer discourse the majority of the time. This resulted in generally more pupil talk and less teacher talk than in regular classes. The implication here

Table 4: 3

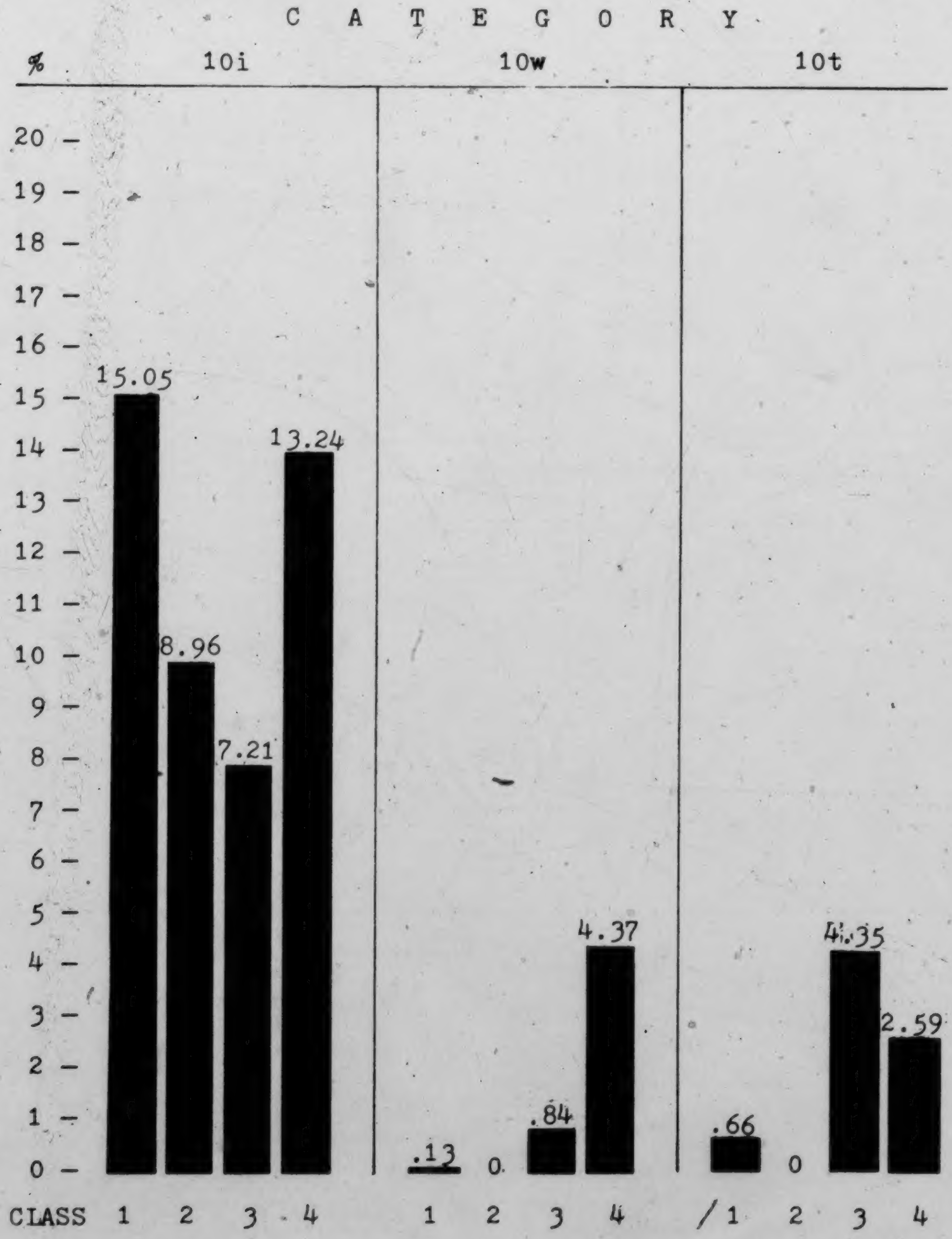
NON VERBAL INTERACTION

Total Frequencies and Percentages and Mean Percentages for each Category

Category Number	Class 1		2		3		4		$\overline{X}$%
	f	%	f	%	f	%	f	%	
10i	341	15.08	148	8.96	119	7.19	230	13.24	11.47
10w	3	.13	0	0	14	.84	76	4.37	1.27
10t	15	.66	0	0	72	4.35	45	2.59	1.80
10l	19	.83	21	1.27	0	0	0	0	.54
10p	8	1.89	11	.66	0	0	12	.69	.42
10m	9	.39	6	.36	11	.66	4	.23	.41
10c	28	1.23	0	0	0	0	0	0	.38
Total Frequencies	423		186		216		367		
% of Total Interaction	18.67		11.27		13.09		21.13		

Figure 4: 2

DIFFERENCES AMONG CLASSES IN
NON-VERBAL VARIABLES WITH
THE HIGHEST MEANS



is that the teachers were creating situations for pupils to use the target language. The nature of the non-verbal behavior varied among classes and was a result of teacher preference for implementing content. Teacher 1 used some directed discourse for drill purposes, teacher 4 wrote on the chalk board to give visual reinforcement to the spoken word while teacher 3 implemented a reading and writing task for the same purpose.

Questions Four to Seven

Questions four to seven deal with the use of the target language and English. Teacher talk in the second language provides a model for purposes of perception, comprehension and imitation on the part of the pupils. Pupil talk in the target language provides the teacher with evidence of comprehension, correct pronunciation and the general level of pupil language proficiency in the target language. Moskowitz (1976) found that more teacher and more pupil talk in the target language contributed to successful teaching.

In the following section questions four and five deal with total teacher talk and then with individual variables within teacher talk; a similar format is followed for pupil talk in questions six and seven.

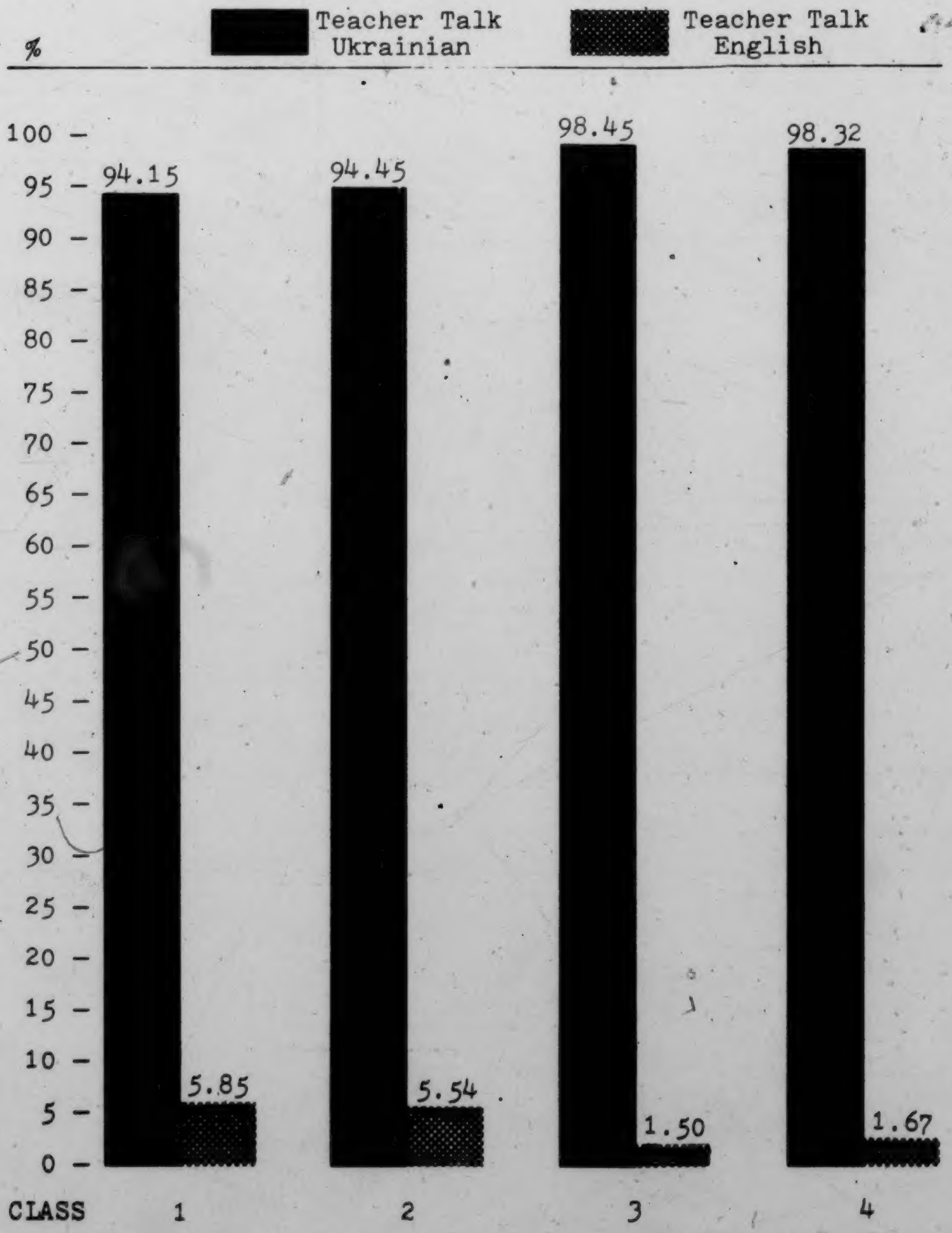
Question 4

> What is the total teacher talk in Ukrainian and English?

Figure 4: 3 indicates that teachers spoke predominantly in Ukrainian and that little use was made of English.

Figure 4: 3

TEACHER TALK
UKRAINIAN AND ENGLISH



Percentages for frequency of use of each English variable are given in Table 4: 4. As indicated the highest mean of 1.02 percent occurred in clarification (3E). Implications here are that the teacher used English primarily to clarify meaning.

Question 5

> What is the distribution of teacher talk in Ukrainian?

Because of the low number of frequencies which occurred in English, discussion of specific variables will be confined to those which occurred in Ukrainian.

Figure 4: 4 illustrates the mean percentages for each teacher talk variable which occurred in Ukrainian. On the average little use was made of feelings (1), divergent questions (4d), teacher beliefs (5b), choral responses (6a), criticism (7), and criticism of behavior (7b). Similar findings resulted from the McEwen study (1976).

In order to determine differences within similar variables, ratios between the class with the highest percentage and the class with the lowest percentage were calculated. This was done for each variable. Those variables which were found to differ with a ratio greater than three are found in Figure 4: 5 and are identified as: use of divergent questions (4d), discussion of content (5), correction of pronunciation (5c), request for choral response (6a), request for behavioral response (6b), and behavioral criticism (7b).

Table 4: 4

TEACHER TALK ENGLISH

Distribution of Total Frequencies, Percentages, Means

Category Number	Teacher 1		Teacher 2		Teacher 3		Teacher 4		$\overline{X}$%
	f	%	f	%	f	%	f	%	
2E	2	.08	1	.06	3	.18	1	.05	.09
2rE	11	.48	0	0	0	0	0	0	.15
3E	37	1.63	23	1.39	11	.66	4	.23	1.02*
4E	2	.08	8	.48	2	.12	2	.11	.19
4dE	0	0	0	0	1	.06	1	.05	.03
5E	8	.35	3	.18	0	0	9	.51	.27
5cE	5	.22	2	.12	0	0	0	0	.09
5pE	0	0	13	.78	0	0	0	0	.19
6bE	0	0	1	.06	0	0	0	0	.01
7bE	0	0	0	0	0	0	0	0	0
Total	65		51		17		17		

* clarification

Figure 4: 4

MEAN PERCENTAGE FOR EACH
UKRAINIAN TEACHER TALK VARIABLE

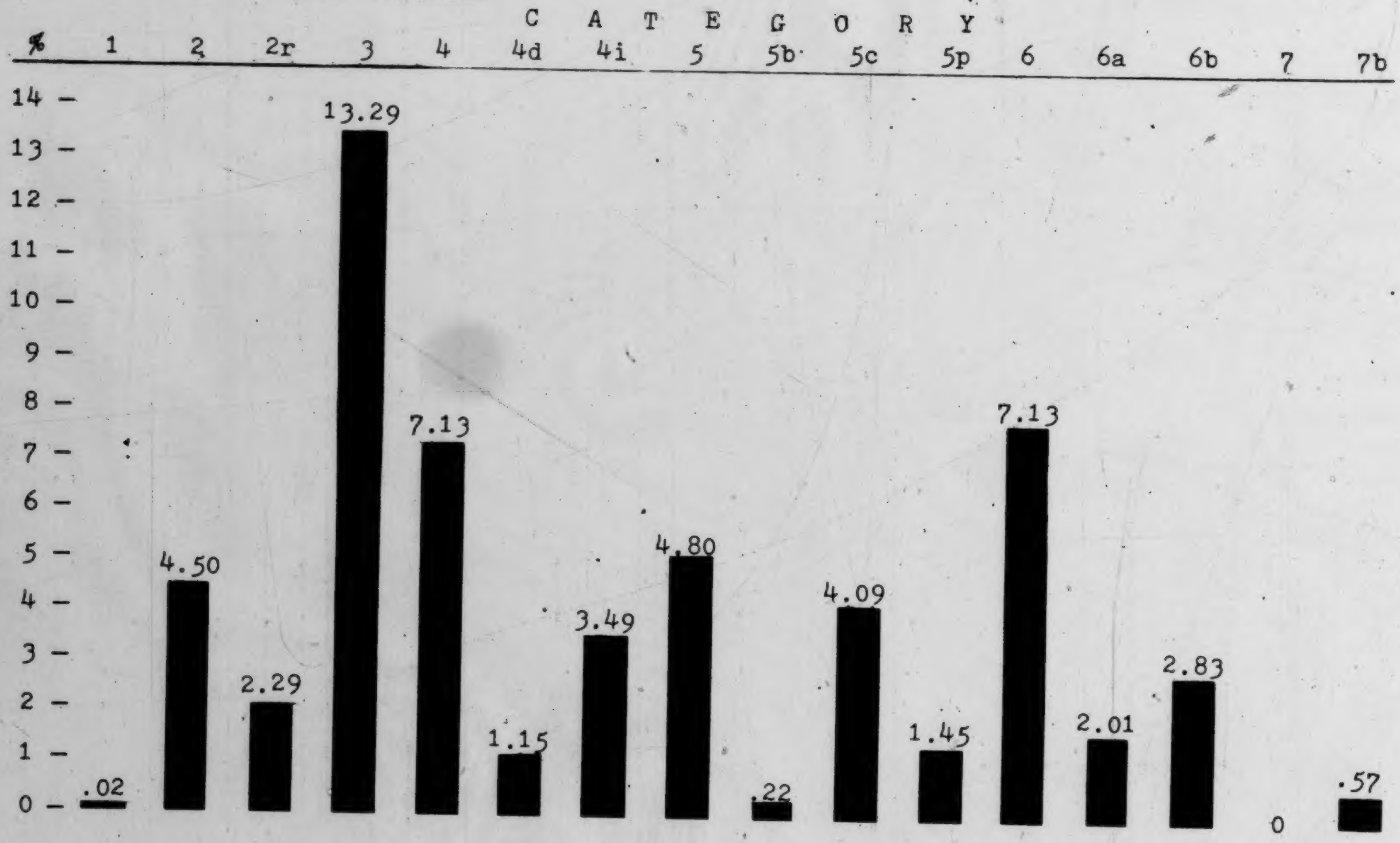
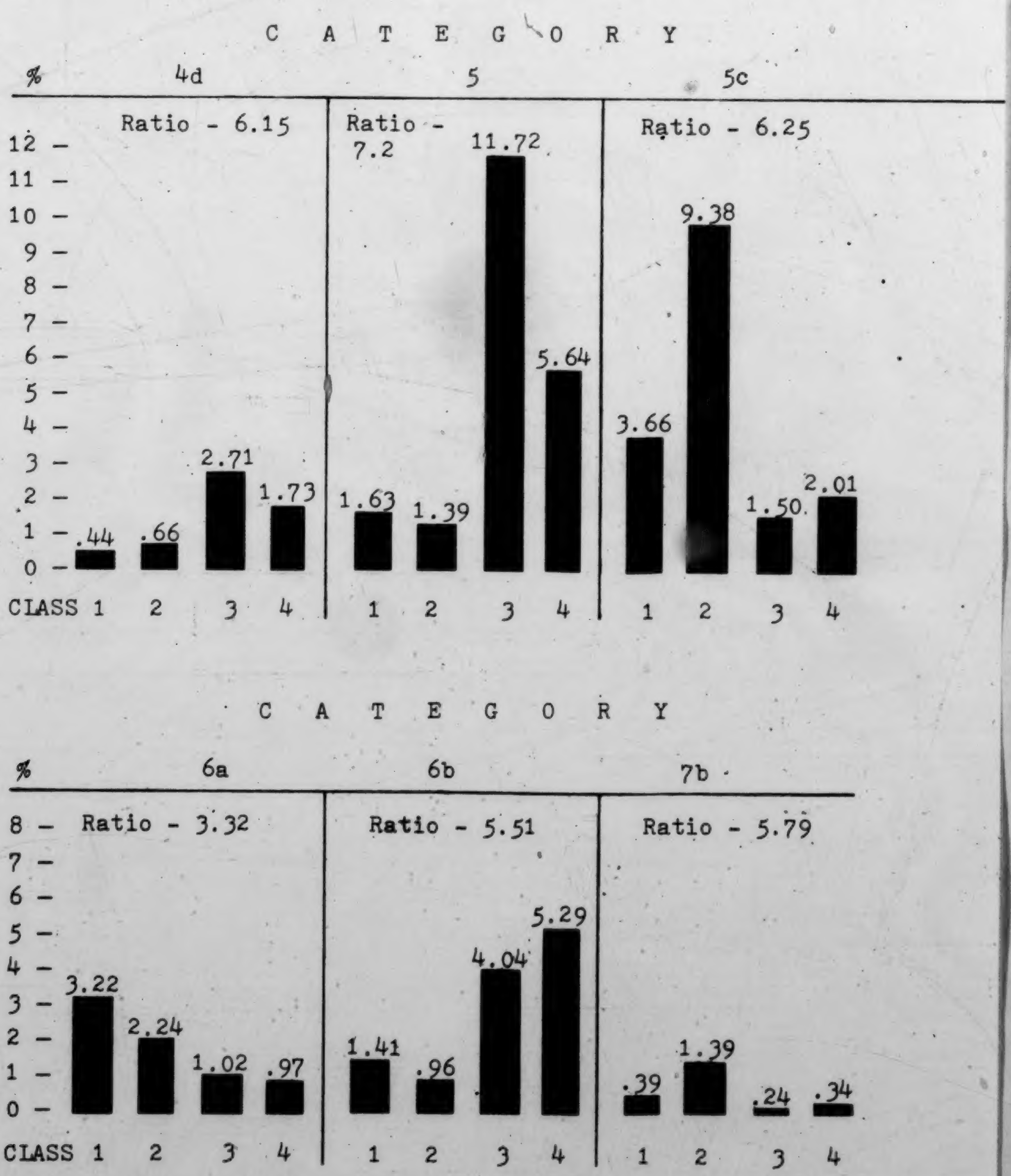


Figure 4: 5

HIGH-LOW PERCENTAGE RATIOS AMONG
TEACHER VARIABLES WITH THE GREATEST DIFFERENCE



Question 6

What is the total pupil talk in Ukrainian and English?

Figure 4: 6 gives the percentages for pupil talk in Ukrainian and English. Pupils tended to speak primarily in Ukrainian but considerably more English was used by the pupils than by the teachers. Figure 4: 7 illustrates the distribution of English pupil process variables. English was used primarily for convergent responses (8E), but some pupil to pupil contact (9c) occurred as well. McInnis and Donoghue found that English was used by the pupils primarily for initiation rather than response.

Question 7

What is the distribution of Ukrainian pupil talk variables?

Figure 4: 8 illustrates the distribution of mean percentages for each pupil talk variable which occurred in Ukrainian. Little use was made of convergent questions (8q) and pupil to pupil contact (9c). Some divergent questions occurred (9q). Predominant variables as indicated by the means were convergent responses (8), pupil initiation of conversation (9), reading (8r) and choral response (8a).

In order to determine the difference among classes within variables, ratios between the highest and lowest percentages were calculated. Figure 4: 9 indicates the differences and ratios, where possible to construct, in pupil talk variables. Radical differences occurred in convergent and divergent pupil questions (8q and 9q). Lesser

Figure 4: 6

TOTAL PUPIL TALK
UKRAINIAN AND ENGLISH

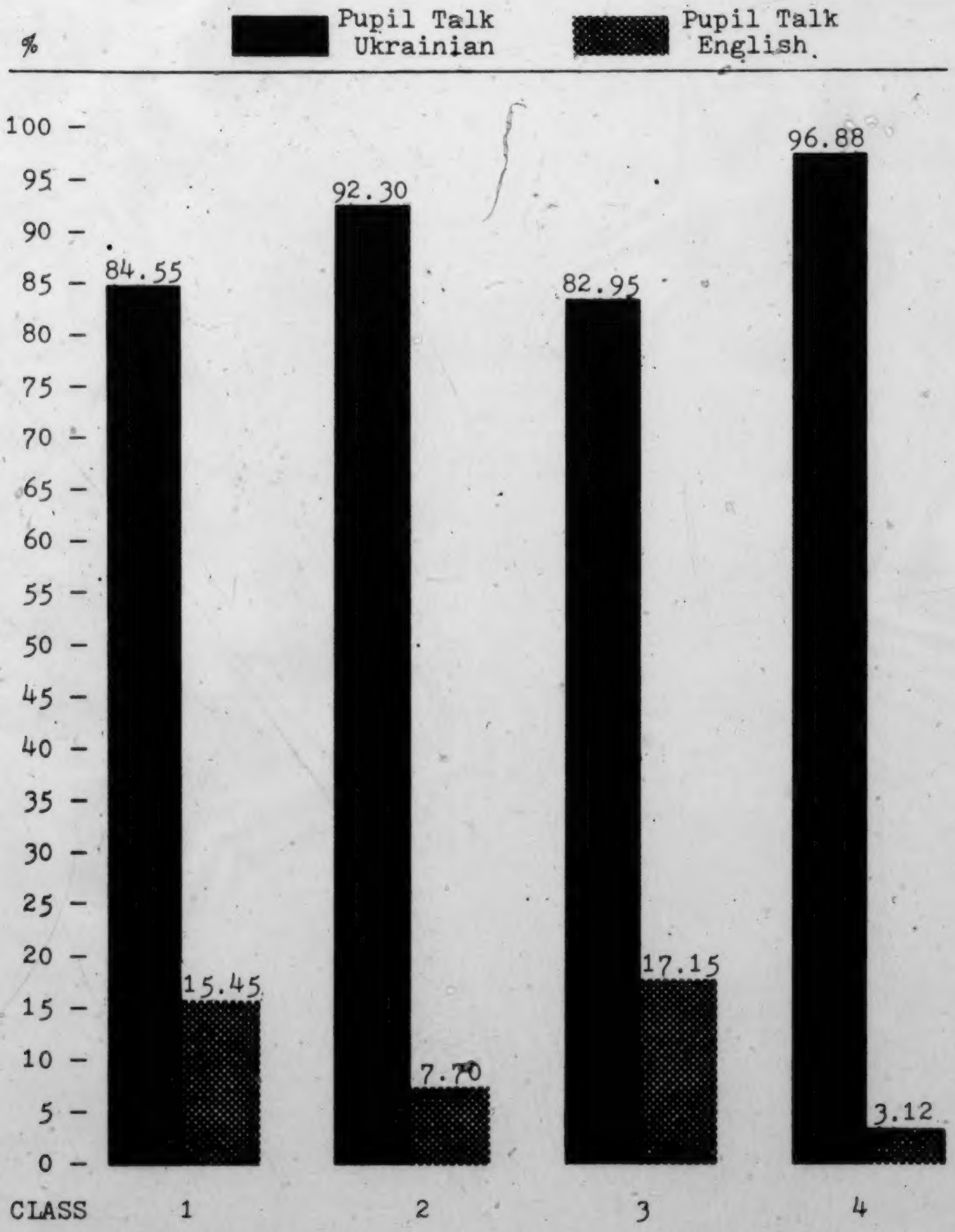


Figure 4: 7

PUPIL TALK ENGLISH
MEAN PERCENTAGE FOR EACH VARIABLE

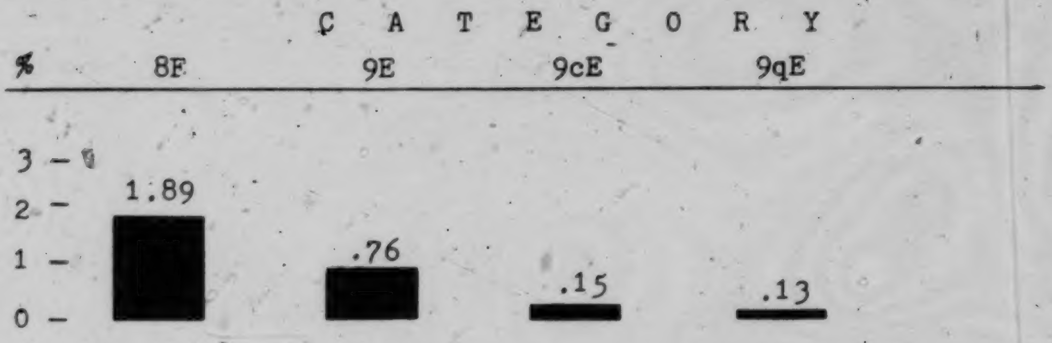


Figure 4: 8

PUPIL TALK UKRAINIAN
MEAN PERCENTAGE FOR EACH VARIABLE

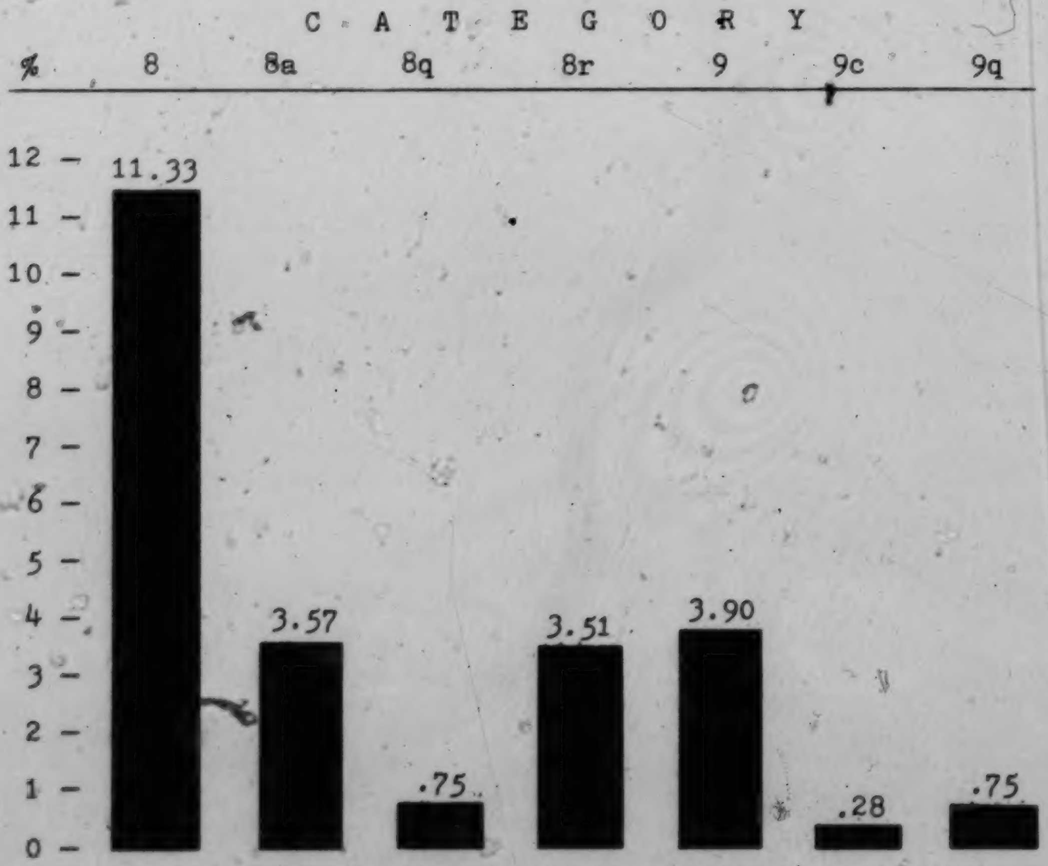
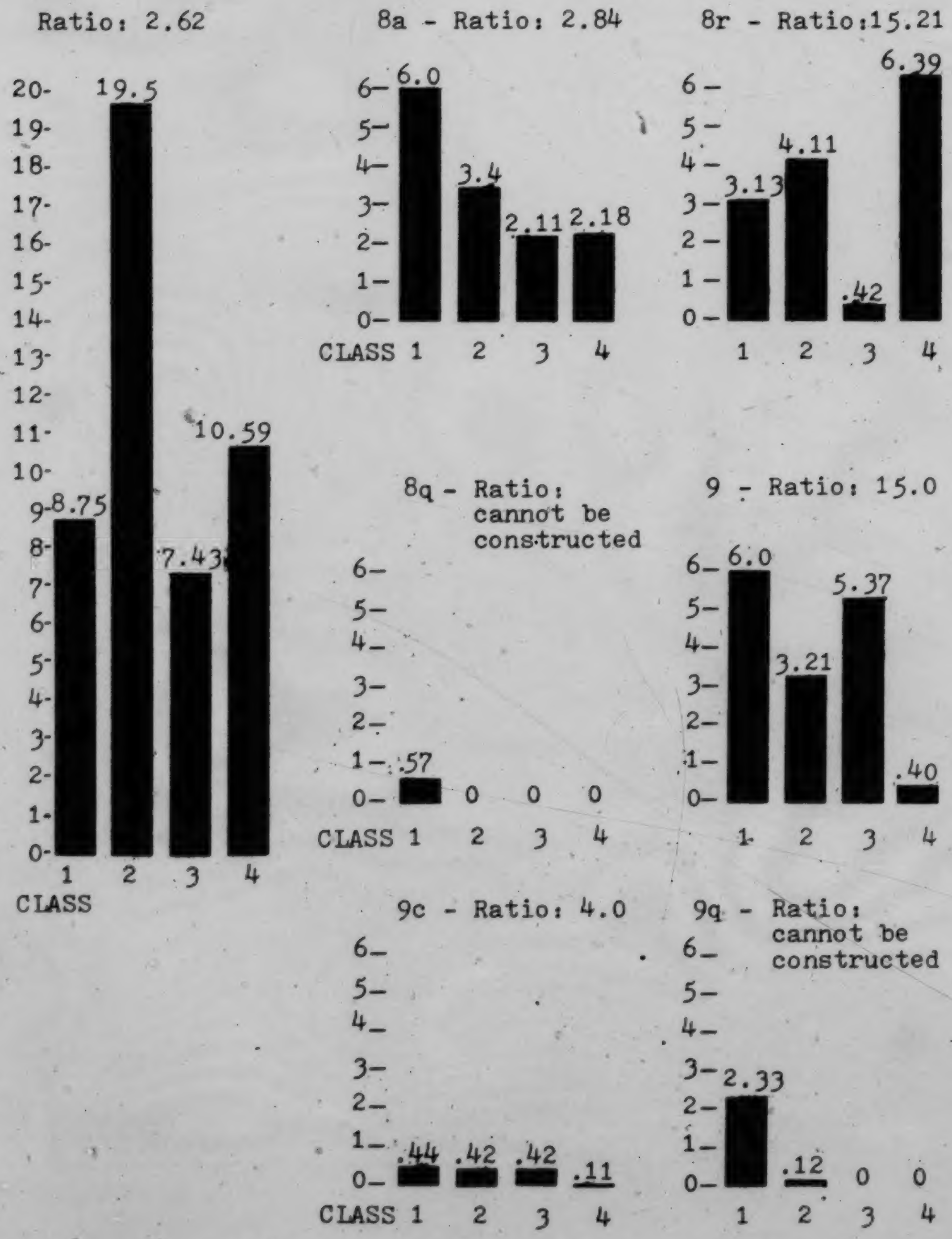


Figure 4: 9

HIGH-LOW PERCENTAGE RATIOS OF
VARIABLES WITHIN THE SAME CATEGORY



Ratio: 2.62

8a - Ratio: 2.84

8r - Ratio: 15.21

8q - Ratio: cannot be constructed

9 - Ratio: 15.0

9c - Ratio: 4.0

9q - Ratio: cannot be constructed

extremes were noted in reading (8r) and initiation of conversation (9), while pupil to pupil contact (9c) was equal in all classes except for class 4. Convergent (8) and choral (8a) responses showed the least differences.

Summary of Questions Four to Seven

All four teachers used Ukrainian almost exclusively. English was used primarily for the purpose of clarification of meaning. Although percentages revealed high means in several areas, calculation of ratios focused on the differences among classes within similar teacher variables. These were identified as discussion of content (5), correction for pronunciation (5c), divergent questions (4d), requests for behavioral response (6), behavioral criticism (7b) and requests for choral response (6a).

Pupils also tended to speak primarily in Ukrainian. Evidence of convergent responses in English implied that pupils understood the Ukrainian language, but could not always produce a response in the target language.

Ukrainian talk consisted primarily of short convergent responses as evidenced in the high frequencies of category 8 (Figure 4: 8).

Calculations of high-low percentage ratios to determine differences within variables revealed that pupils in class 1 initiated convergent and divergent questions as well as regular talk and used the most choral response. Class 3 initiated regular talk as well but did not initiate questions. The high percentage for reading (8r) in class 4 was a result of lesson content. Some pupil to pupil contact was made in classes 1, 2 and 3.

Questions Eight and Nine

Knowledge of how much pupils and teachers talk becomes much more useful when included with some index of quality. Ratios of teacher questions (TQR), teacher responses (TRR) and pupil initiation (PIR) were calculated in order to give a more parsimonious concept of teacher and pupil talk. (Flanders 1970)

Similarly, inclusion of dyadic interaction along with total class results provided information regarding the distribution of teacher attention to individual pupils.

The following questions deal with the above mentioned areas.

Question 8

> What is the teacher question ratio (TQR), the teacher response ratio (TRR) and the pupil initiation ratio (PIR)?

The TQR as defined by Flanders (1970) is an index representing the teacher's tendency to use questions when guiding the content part of the lesson. The term content refers to any 4 or 5 behavior including those with subscripts. Asking questions (4) and giving information (5) are viewed as the variables largely containing the subject matter or content being communicated. The TQR is calculated by dividing the sum of frequencies in variable 4 including those with subscripts by the sum of frequencies in variables 4 and 5 including their subscripts.

The TRR purports to measure a teacher's tendency to react to the ideas and feelings of her pupils. It also serves as an indicator of motivation and control. This ratio is calculated by dividing the sum of variables 1, 2 and 3 including those with subscripts by the sum of variables 1, 2, 3, 6 and 7, including their subscripts.

The PIR measures the proportion of student talk which is initiated by the student. It is calculated by dividing the frequency of variable 9 including its subscripts by the total pupil talk.

Figure 4: 10 indicates the TRR and TQR compared to each other for each class. In regular classes the average for teacher initiation of questions is about 25 percent (Flanders 1970). As indicated in Figure 4: 10 all four teachers asked considerably more questions than average. McInnis and Donoghue (1976) also found a higher TQR for extended and immersion elementary French classes.

Flanders found the average number of teacher responses which react to pupil feelings and ideas to be a little less than 50 percent. In terms of this study, all four classes indicated a higher TRR than in regular classes. McInnis and Donoghue reported a higher TRR in their study as well.

Figure 4: 11 indicates the PIR for all four classes. In regular classroom studies, the average PIR is reported to be about 33 percent. In terms of this study, the PIR was lower than average for classes 2 and 4 and about average for classes 1 and 3. McInnis and Donoghue found a PIR of 57 percent for immersion students and 25 percent for extended

Figure 4: 10

TEACHER QUESTION TEACHER RESPONSE RATIOS FOR ALL FOUR CLASSES

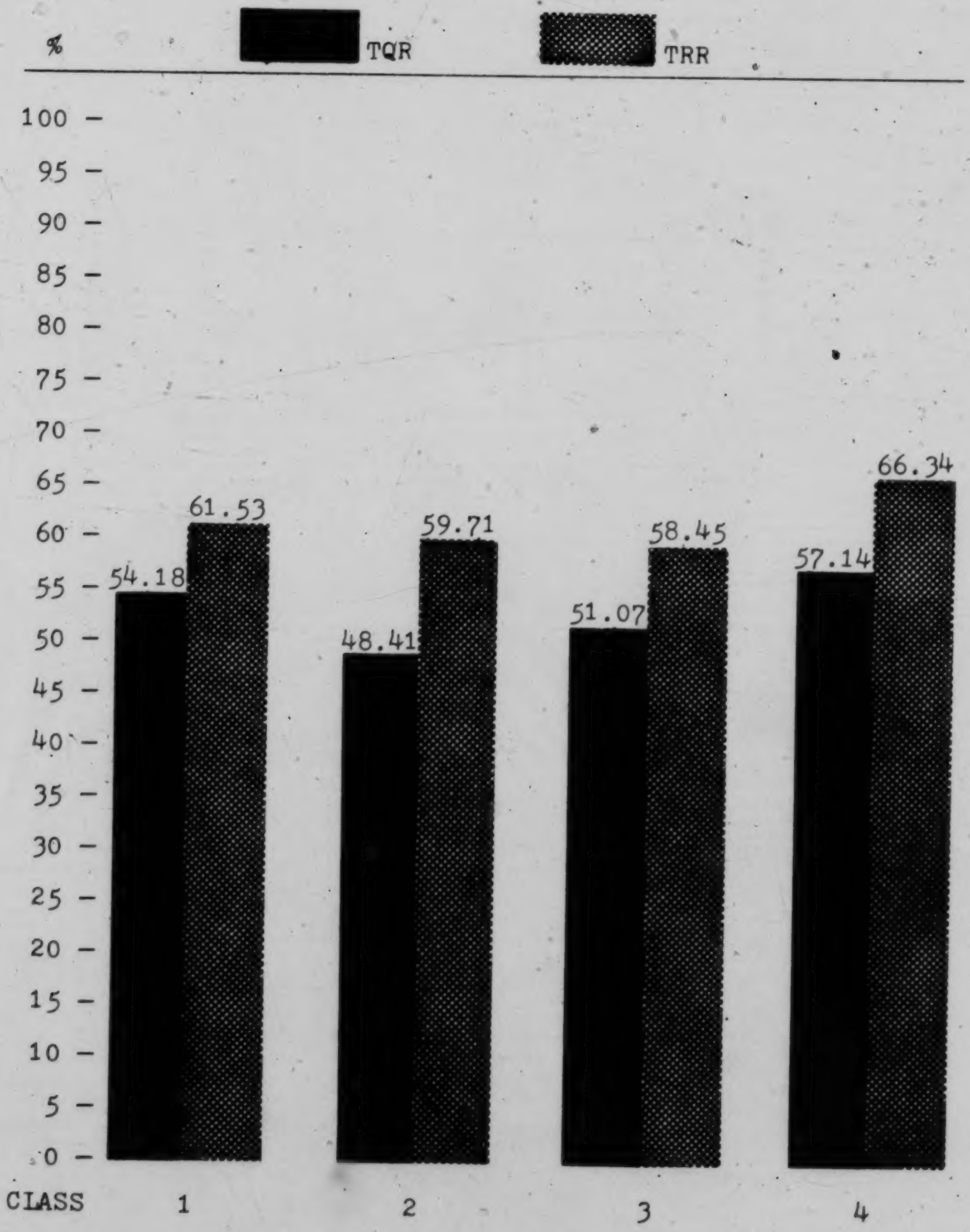
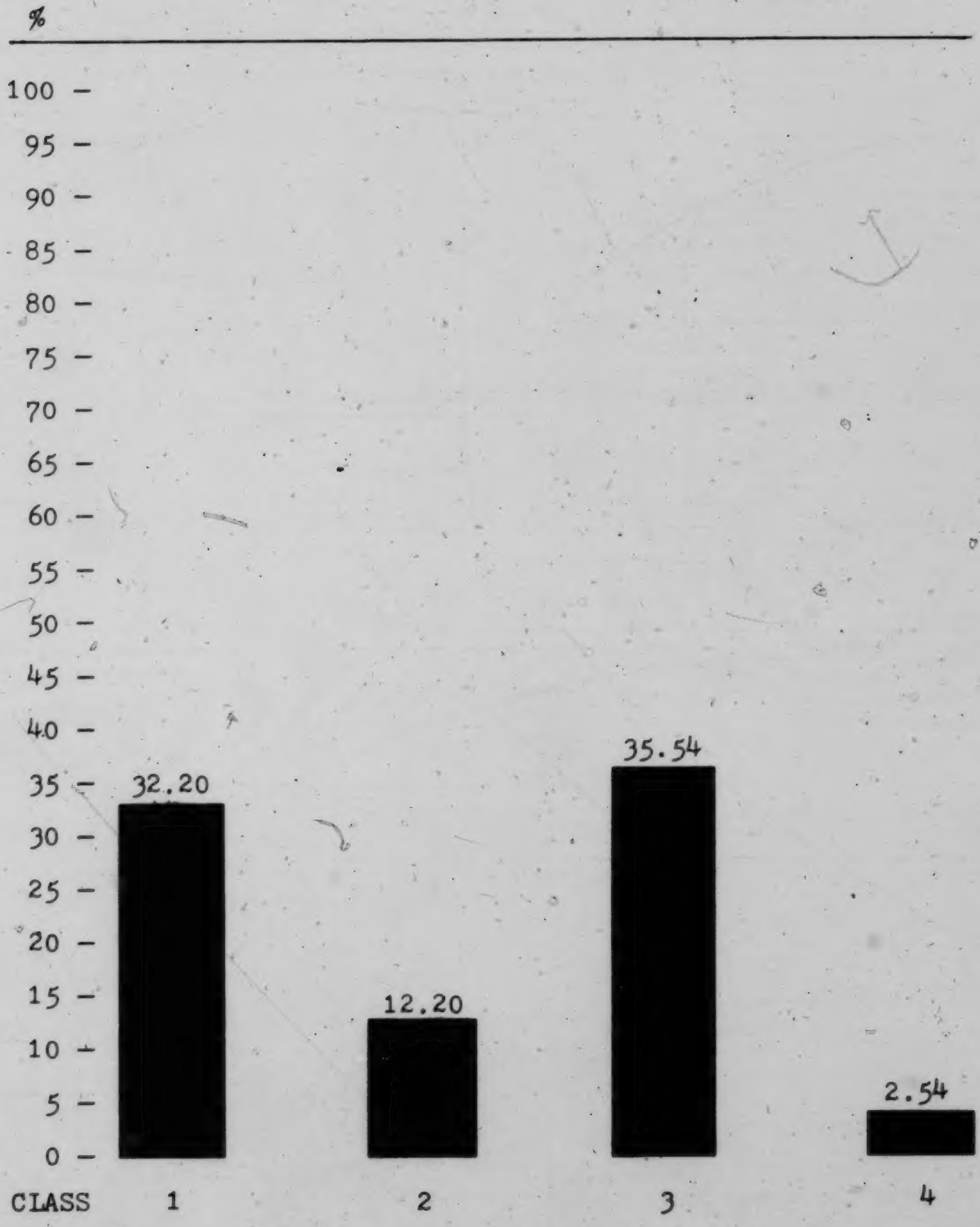


Figure 4: 11

PUPIL INITIATION
RATIO - UKRAINIAN



students.

Question 9

> What is the total dyadic interaction in each class, and the disbursement of dyadic frequencies among pupils?

MacDonald (1972) found that in regular classes dyadic interaction was greater than group interaction. Figure 4: 12 shows the results for this study. Classes 2 and 4 show a higher percentage of dyadic interaction. This is reflected in the high percentage of pupil talk which occurred in these classes (Figure 4: 6) and in the percentage of convergent responses (Figure 4: 9).

Table 4: 5 which indicates the distribution of dyadic frequencies among pupils for each class clearly exemplified the inequality of dyadic interaction amongst students. Dyadic ranges were from 3.26 percent to 13.35 percent for class 1, 2.72 percent to 10.20 percent for class 3, 0 percent to 20.86 percent for class 3, and .20 percent to 13.13 percent for class 4.

Summary of Questions Eight and Nine

The similarities between the TRR and TQR in all four classes (Figure 4: 10) indicates that teachers, when guiding the content part of the lesson, replied to pupil responses with some paraphrasing or clarification only slightly more than teachers asked questions. The former is reflected in the high percentage of variable 3 (clarification), and the latter is reflected in the high percentage in variable 4 (asks convergent questions). It is evident that teachers

Figure 4: 12

COMPARISON OF TOTAL DYADIC
AND GROUP INTERACTION

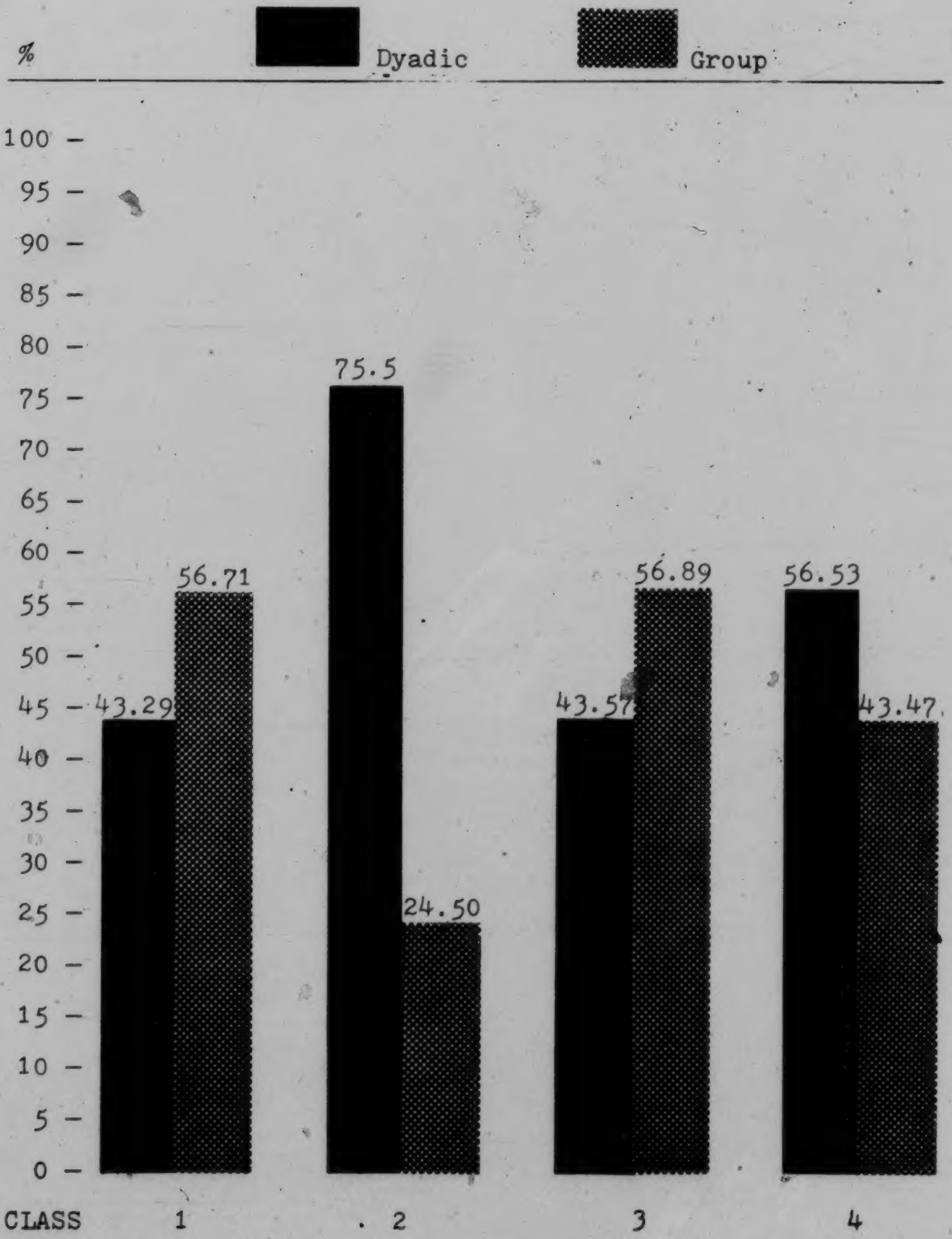


Table 4: 5

FREQUENCIES AND PERCENTAGES FOR EACH STUDENT
DYADIC AND GROUP PERCENTAGES

Student Number	Class Number											
		1			2			3			4	
		f	%		f	%		f	%		f	%
1		107	10.90		79	6.34		10	1.39		49	4.98
2		33	3.36		68	5.45		14	1.94		84	8.55
3	Gr. 3	121	12.33		79	6.34		48	6.67		17	1.73
4		70	7.13	Gr. 3	57	4.57		76	10.57		11	1.12
5		67	6.82		50	4.01		32	4.45		24	2.24
6		48	4.89		128	10.20*		30	4.17		2	.20
7	Gr. 4	95	9.68		65	5.20	Gr. 3	0	0		32	3.25
8		32	3.26*		97	7.78		3	.41		23	2.34
9		131	13.35		54	4.33		0	0 *		3	.30*
10		182	18.55*		39	3.13		21	2.92		13	1.32
11		51	5.19		55	4.14		7	.97	Gr. 3	21	2.13
12		44	4.48	Gr. 4	34	2.72*		11	1.52		18	1.83
13					65	5.21		12	1.66		130	13.23*
14					70	5.61		33	4.58		57	5.80
15					81	6.50		13	1.80		52	5.29
16					72	5.79		150	20.86*		30	3.05
17					58	4.65	Gr. 4	89	12.37		30	3.05
18					43	3.45		24	3.33		72	7.33
19					52	4.17		47	6.53		64	6.51
20								59	8.20		64	6.51
21								3	.41		23	2.34
22								19	2.64		44	4.48
23								18	2.50		70	7.12
24											49	4.98
25											3	.30
Total		981			1246			719			982	
% Dyadic		43.29			75.5			43.57			56.53	
% Group		56.71			24.5			56.89			43.47	

* Class Range

held a tight control on the class which is reflected in the high percentage of variable 6 (requests for verbal response).

The low PIR (Figure 4: 11) in classes 2 and 4 indicated that pupils did not speak out spontaneously or express their own opinions or ideas in Ukrainian. The high PIR in class 1 resulted from pupils going to the front of the class and initiating dialogues. In order to determine the reason for the high PIR in class 3, examination was made of the individual frequencies in the dyadic data. This revealed that eighty of the eighty-nine tabulations for variable 9 in this class were from one pupil, clearly showing that the PIR for class 3 was not indicative of classroom procedures in terms of pupil initiation of verbal communication.

As indicated in the PIR for class 3, providing information on teacher contact with individual pupils could alter the general description of teacher pupil interaction in the class.

Summary of Classroom Processes

Predominant process variables which emerged in response to the questions posed in the study, as well as combinations of variables such as TQR, TRR and PIR are presented in Figure 4: 13. Identification of processes for each teacher are also indicated. Results revealed that other than a consistency across all four teachers in the question-answer pattern (4-6-8-3) teachers were quite diverse in their behavior.

Figure 4: 13

SUMMARY SELECTED TEACHER PROCESS VARIABLES		CLASS 1	2	3	4
4-6-8-3	(question answer)	x	x	x	x
4-6a-8a	(request for and choral response)	x			
6-8q-8	(directed discourse)	x			
5	(discussion of content)			x	
5c	(corrects pronunciation)		x		
4d	(divergent question)			x	
6b	(request for behavioral response)				x
7b	(criticizes behavior)		x		
8r	(reading)				x
8q	(convergent question)	x			
9	(initiation of communication)			x	
9q	(divergent question)	x			
T.T.T	(total teacher talk)			x	
P.T.	(total pupil talk)		x		
Dyadic	(dyadic interaction)		x		
TQR	(teacher question ratio)				x
TRR	(teacher response ratio)				x
PIR	(pupil initiation ratio)			x	
T.T.UK	(teacher talk Ukrainian)				x
P.T.UK	(pupil talk Ukrainian)				x

Following is a brief summary of the main process variables which emerged for each class.

Class 1

Audiolingual habit formation in the form of directed discourse and requests for choral response were evident in this class. Some picture-stimulated pupil dialogue occurred which resulted both in pupil-originated convergent (8q) and short divergent (9q) questions. There was also some indication of initiation of conversation. Implications here are that this teacher purposely created situations for pupils to talk. Although the divergent questions and initiations were short, it gave some indication that these pupils were in the initial stages of bridging the gap from basic skills to communication.

Class 2

The high dyadic interaction in this class is reflected in the high percentage of convergent questions and responses (4-6-8-3). It also appeared that these were corrected for pronunciation a good deal of the time. Some behavioral criticism occurred. Implications are that this teacher used a restricted code which provided a limited language model for the class. It appeared that basic skills of listening and speaking were being stressed.

Class 3

High total teacher talk in this class was characterized by discussion of content (5) and use of divergent questions

(4d). Rather than directly correcting pupil pronunciation, this teacher preferred to correct in a more indirect fashion. Little choral response was found in this class and the higher percentage in behavioral response (6b) resulted from coding such statements as "think about it carefully" into this category. The high PIR resulted from the dyadic interaction with one pupil. Implications are that the language used by this teacher was of a fairly abstract nature which provided a fairly high level model for the class.

Class 4

High pupil and teacher talk in Ukrainian as well as a high TRR and TQR for this class indicates that the majority of the interaction consisted of question-answer discourse (4-6-8-3) in the target language. High frequencies in requests for behavioral response (6b) were a result of the teacher asking pupils to "raise their hand" or to "look closely at the picture". Limited divergent questioning occurred when the teacher asked pupils to make inferences about a picture. The high frequencies in reading (8r) occurred as a result of lesson content. Implications are that lower order questions were prevalent in this class and that the teacher was stressing basic listening and speaking skills through the use of a question-answer technique. This was integrated with the reading lesson.

PRODUCT PROCESS RELATIONSHIPS

Question ten in the following section deals with pupil product. Achievement and gain scores as determined by the Ukrainian Language Skills Achievement Test are provided. Question eleven refers to the relationship between the product results and the process variables derived from the first part of this chapter.

Grade three is discussed first and a similar format is followed for grade four.

Grade Three

Question 10

> What are the pre-post achievement test scores and the gains which occurred between the two tests?

Product measures were determined by calculating gain scores between the pre and post Ukrainian Language Skills Achievement tests.

Figure 4: 14 illustrates the pre-post test mean achievement scores and the mean gains. As indicated, class 4 had the lowest achievement scores but the greatest gains. Classes 1, 2 and 3 had similar gains but achievement was lower in class 3.

A delineation of the total gains into sub-skill gains provided a focus for discussion of the relationship between teacher process variables and product measures. Figure 4: 15 illustrates the mean achievement and mean gains made in each sub-skill for each class. Each sub-skill is identified and

Figure 4: 14

PRE-POST TEST MEAN ACHIEVEMENT SCORES AND MEAN GAIN SCORES FOR GRADE THREE

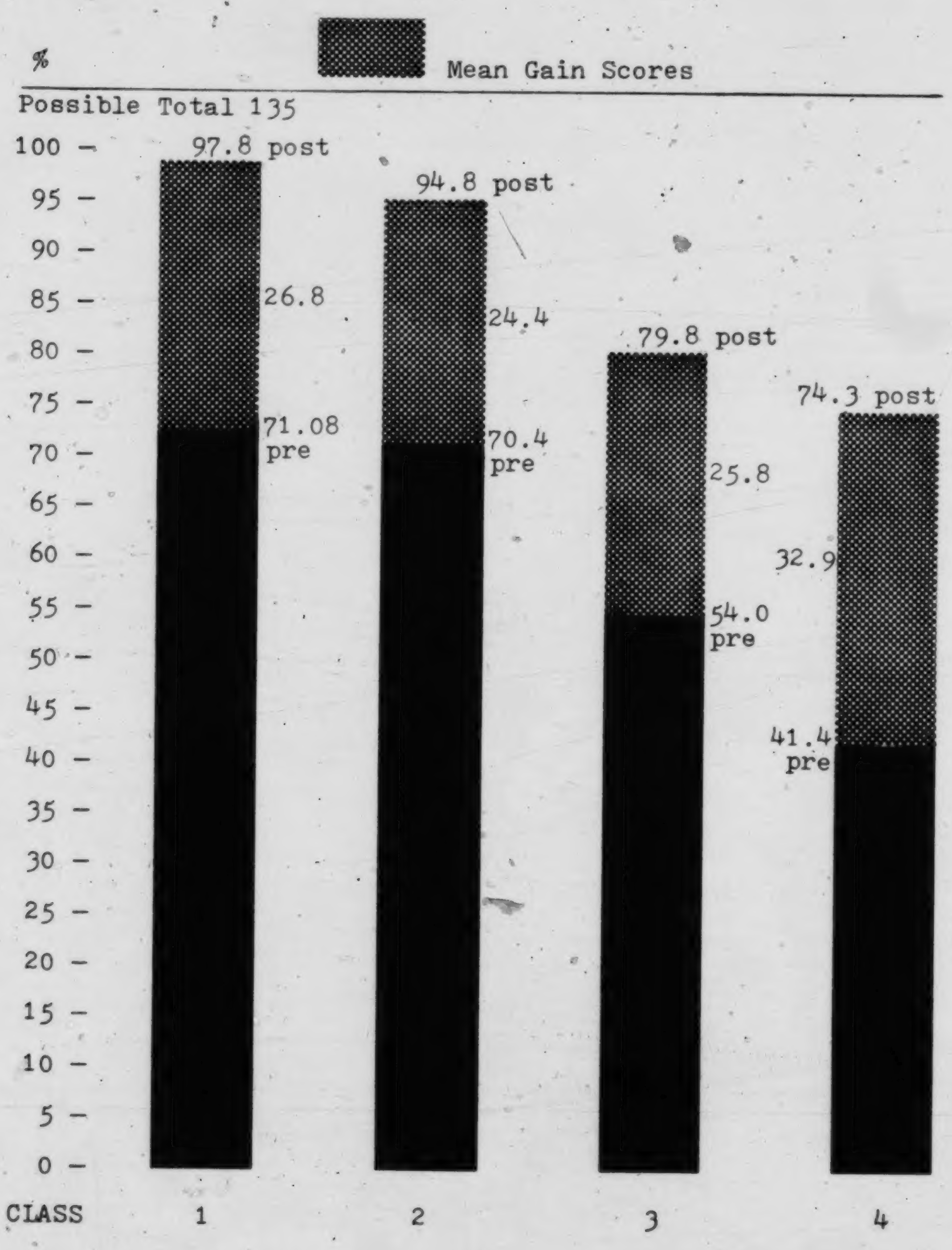
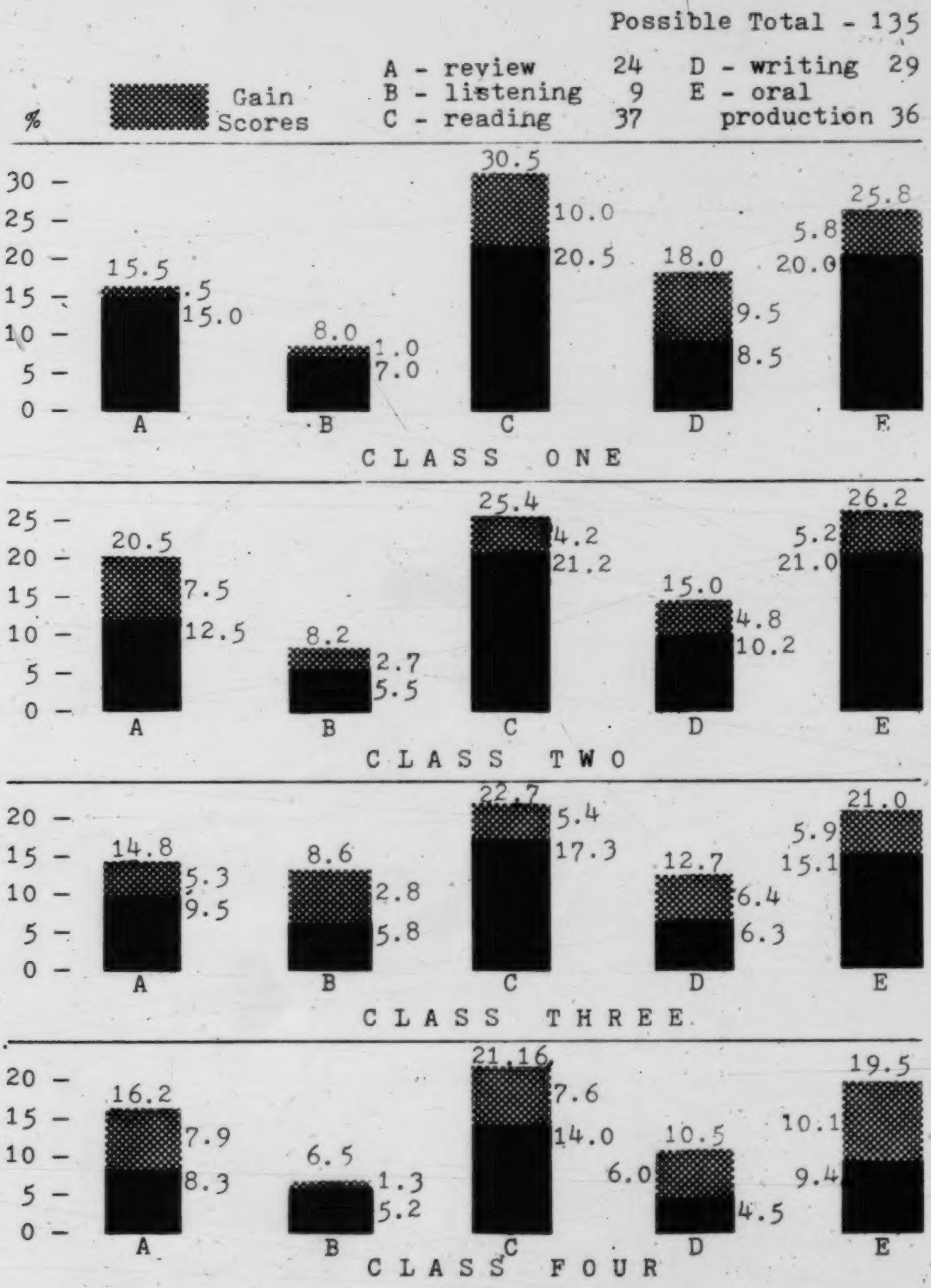


Figure 4: 15

SUB-SKILL GAIN SCORES GRADE THREE



possible scores are given for each.

To determine whether the gains were statistically significant, a two-tailed "t"-test was performed. Of the twenty-four "t" tests, only four did not achieve $p < .05$ level (Appendix C).

Question 11

> What is the relationship between the total mean gain scores, mean sub-skill gains and teacher process variables for each class?

The following response supports the position of Mitzel (1963) who describes the role of direct observation in teaching as a means of determining the relationship to pupil growth. Predominant teacher processes which emerged from the study (Figure 4: 13) and pupil product (Figures 4: 14 and 4: 15) are related to one another. Each class is dealt with separately.

Class 1

Figure 4: 15 indicates that gains made in the review of previously taught material (A) and listening (B) were not significant. The most gains were made in reading (C) and writing (D). Although reading and writing were not observed in the study, informal discussion with the teacher affirmed that these two skills had been stressed during the year. Gains in oral production (E) were slightly less than those made in class 3 and more than those made in class 2.

In terms of the relationship between processes and product, the implications are that the audiolingual habit formation drills of directed discourse and choral response, which emerged for this class, did not affect oral production to any great extent. Evidence of convergent and divergent questions and pupil to pupil contact does imply, however, that a few individuals responded to that particular process. Further implications are that transfer occurred from the oral drills to reading and writing.

These results support the position of Carroll (1970) who states that "pupils tend to learn what they are taught" through one modality or another.

Class 2

Figure 4: 15 reveals that the most gains for this class were made in the review of previously learned materials (A) while the gains made in reading (C) and oral production (E) were not significant. Although the pretest achievement score for this class was high (Figure 4: 14), total gains were the lowest. The possibility of this class reaching maximum scores was unlikely in that the test total was 135 and the post-test achievement score was 94.8.

A basic question-answer pattern emerged from the process observations. It appeared that basic skills and material familiar to the pupils was being stressed. This is supported by examination of individual pupil gain scores (Appendix C) which revealed a loss of two for the highest achiever and eight-three for the lowest. Implications are that stress on basic skills may not have been optimum procedure for the high achievers in this class.

The concept of optimal teaching is stated by Brophy and Evertson:

> The higher the ability and knowledge of the student, the more difficult and challenging the task can become without losing effectiveness. Conversely, less able or knowledgeable students will need material presented in smaller chunks in greater redundancy.
> (1976, p. 65)

As a result, the lower-order question-answer pattern used in this class was not necessarily challenging for the high achievers. An alternate reason for the low pupil gains lies in the possibility that increment in achievement often decreases with the level of class quality (Henderson et al, 1976), which, as indicated by the achievement scores, was considerably higher than the test mean of 58.4.

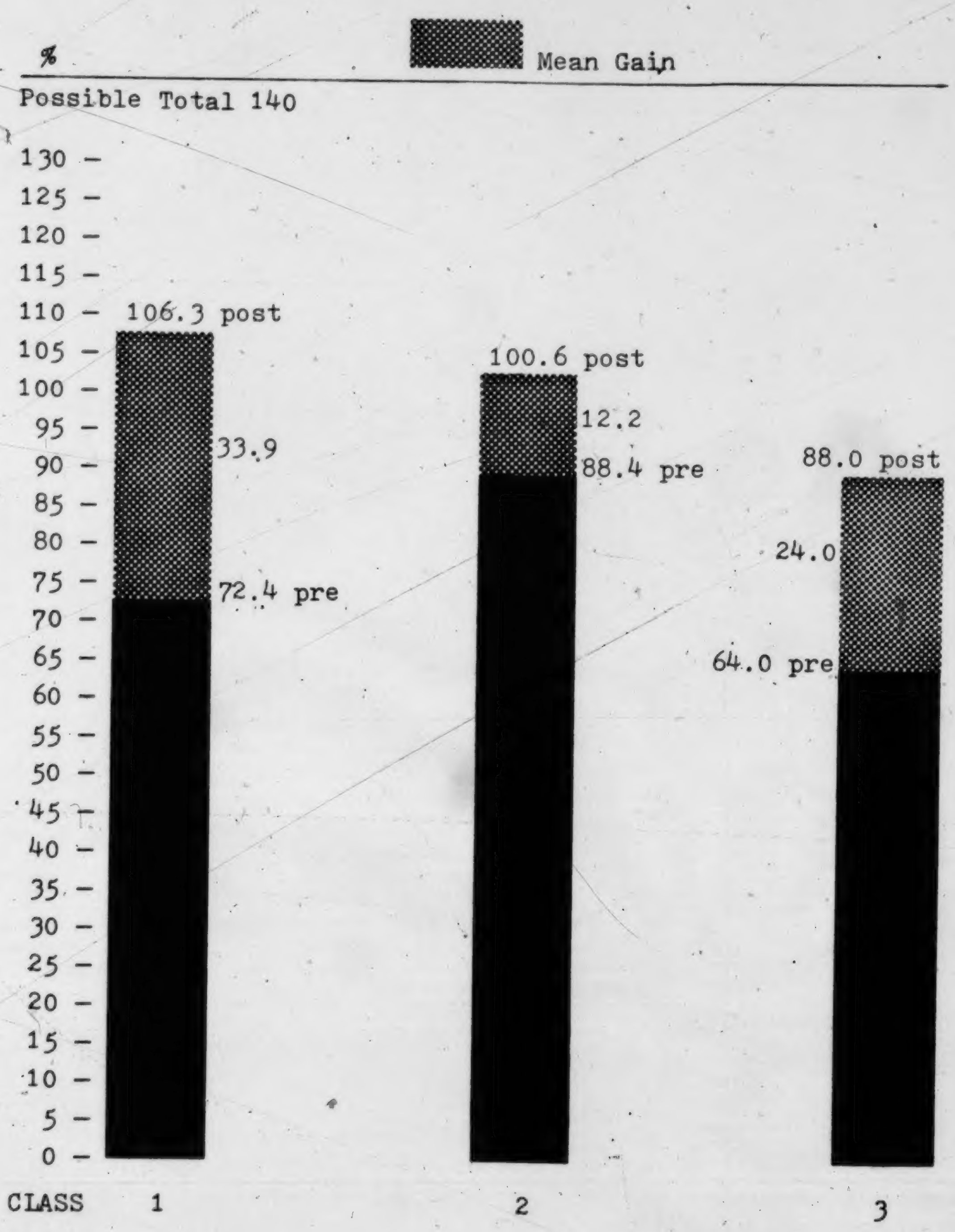
Class 3

Figure 4: 15 indicates that gains were similar and significant across all five sub-skills.

The emerging process of high teacher talk was characterized by discussion of content and divergent questions. During the question-answer discourse, rather than focusing directly on the pupil to correct pronunciation errors, the teacher reiterated or clarified the response using a correct model. Stanislawczyk and Yavener (1976) contend that the teacher model approach to error correction tends to sharpen the pupils' sensitivity to the target language and helps them to become more accutely aware of what is acceptable.

Figure 4: 16

PRE-POST TEST MEAN ACHIEVEMENT SCORES
AND MEAN GAIN SCORES FOR GRADE FOUR



Implications are that teacher proficiency in the target language as was evident in the discussion of content and divergent question, together with a humanistic approach to pronunciation error correction, contributed to the positive gains made in the achievement test by this class.

Class 4

Figure 4: 14 indicates that the highest total gains were made by this class. Figure 4: 15 indicates that all the sub-skill gains were significant and that oral production (E) gains were the highest among all four classes.

Emerging process variables of high teacher and pupil talk in Ukrainian, as well as a high TRR and TQR indicates that the majority of the interaction consisted of question-answer discourse. Writing on the blackboard as a visual reinforcement was evident as well.

Implications are that lower-order question-answer discourse with reading reinforcement was optimum for this class. In addition, the non split organization, which provided the teacher with more time to spend on one grade could also be considered as a variable which may have contributed to the higher pupil gains found in this class.

Grade Four

Question 10

> What are the pre-post achievement test scores
> and the gains which occurred between the two tests?

Product measures were determined in the same manner as those in grade three. Figure 4: 16 illustrates the results.

Class 1 had the highest post-test achievement scores and the greatest gains, class 3 with the lowest pre-and post-test achievement scores made the second highest gains, and class 2 with the highest pre-test achievement scores made the least gains.

As in grade three the total gains are delineated for discussion purposes. Figure 4: 17 illustrates the gains made in each sub-skill for each class.

A "t" test was performed to determine statistical significance (Appendix C). Of the eighteen "t" tests performed, only two did not achieve $p < .05$ level.

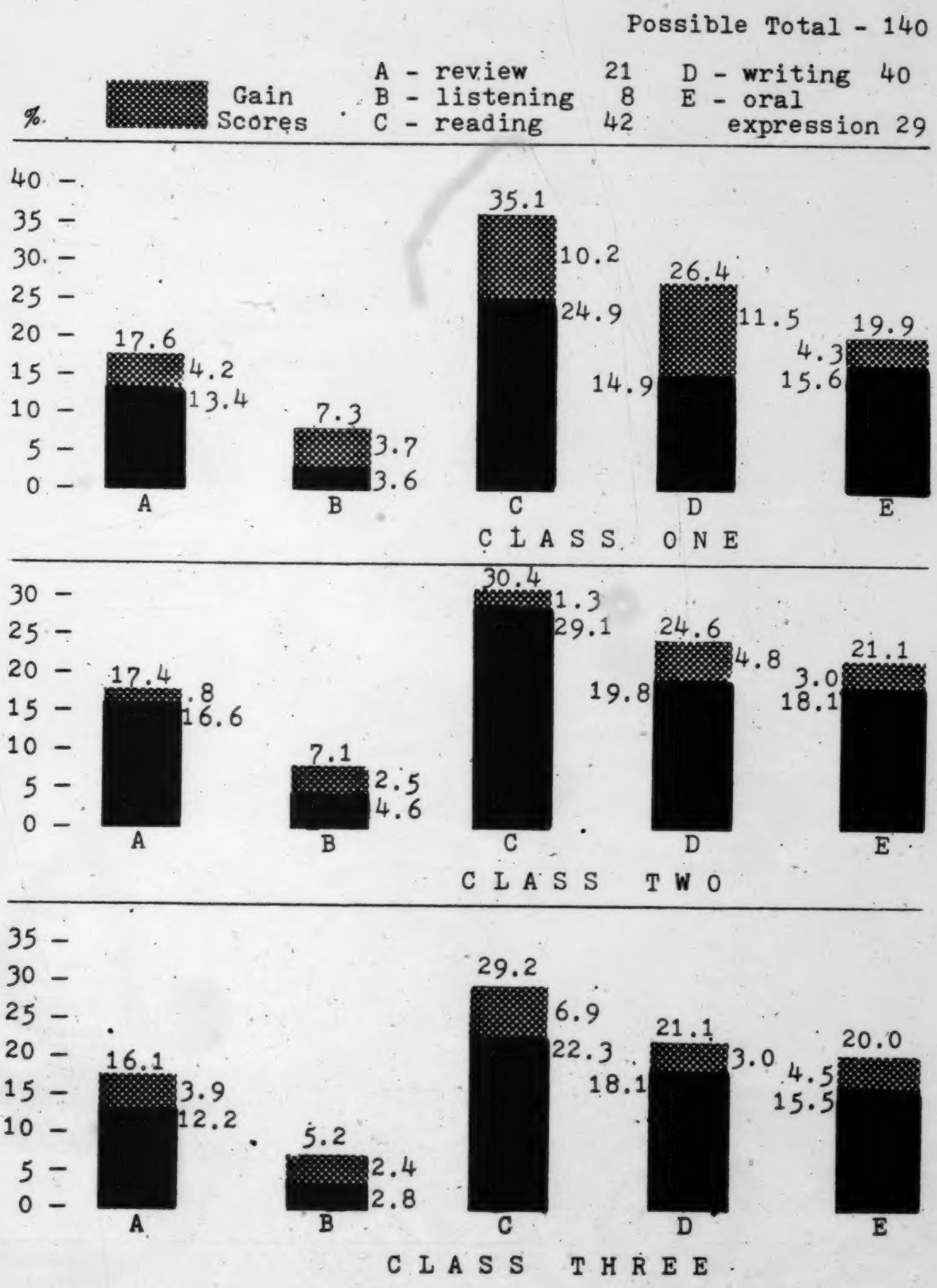
Class 1

As indicated in Figure 4: 17 gains, which reached near maximum measures, were made in listening (A) and review of previously learned materials (B). As found in grade three, the most gains were made in reading (C) and writing (D). Lower gains in oral production were a result of pupil errors in grammar.

Processes were similar to those explained for grade three. More specifically, the nature of the directed discourse (6-8q-8) and choral response (6a-8a) which occurred in this class was to provide drill in pronoun-verb agreement. Implications are that drills of this nature contribute to correct pronunciation initial awareness and habit formation of this particular aspect of the language. However, exposure to the second language in additional modalities such as listening, reading and writing create a cognitive assimilation which contributes to second language acquisition.

Figure 4: 17

SUB-SKILL GAIN SCORES GRADE FOUR



Class 2

As indicated in Figure 4: 17, sub-skill gains in all five areas were lower than those which occurred in class 1. Gains in listening and reading were not significant.

The predominant processes of question-answer discourse and correction of pronunciation which did not appear to be optimum procedures for the high achievers in grade three seemed to reflect on the achievement of the grade four pupils as well.

Implications here are that two streams of instruction may be a useful way to organize this class: one stream for the development of basic skills and the other for the development of higher level language skills which would entail use of a more elaborated code and different teaching processes.

Class 3

Although the pre-post test mean achievement scores were found to be the lowest in this class (Figure 4: 16), mean gains were greater than those found in class 2. The consistency in mean gains across all sub-skills indicated that more than likely there had been equal emphasis placed on all five areas.

As stated in the previous section the process of high teacher talk, which was somewhat elaborated in nature, emerged for this teacher. In order to extend this profile, non-verbal variables were examined (Table 4: 2). It was found that this teacher engaged in miming more than the others.

Implications for product-process relationships are that qualitative teacher talk together with dramatization or physical action were processes which contributed to positive pupil gains in this class.

SUMMARY

This chapter presented the findings as related to the research questions stated in Chapter III. The process variables which emerged from the study gave some indication of the various patterns of verbal interaction which occur in the classroom as well as the quantity and quality of teacher, pupil talk and non-verbal interaction.

Calculation of mean gain scores and comparing them with the gains found in each sub-skill provided information regarding the area which had more than likely been stressed by each teacher.

A description of the implied relationship between the product and process variables gave some indication of the diverse and individualized nature of teaching.

CHAPTER V

SUMMARY CONCLUSIONS AND IMPLICATIONS

INTRODUCTION

A brief summary of the study and an outline of the findings are presented in this chapter. Conclusions drawn from these findings are discussed. Implications for teacher education and further research are made.

SUMMARY OF THE STUDY

The main purpose of this study was to examine the process of pupil-teacher verbal interaction in four Ukrainian bilingual elementary classrooms. A further purpose was to determine the relationship between selected process variables and pupil product measures.

The research sample consisted of three grade three-four split classes and one grade three heterogeneous Ukrainian bilingual classrooms in four schools. Four teachers and seventy-nine pupils participated in the study.

The McEwen L2P System (with modifications) for assessing classroom interaction was used as the observational instrument. Verbal behavior of the teacher in introducing new material, teaching grammatical structures and in reading lessons, along with identification of the pupil with whom the teacher was interacting were coded together. Recording the classroom interaction on a cassette tape recorder served to clarify the live data which had been collected on coding sheets.

Tallied frequencies for each category of speech as identified by the instrument were converted to percentages and labeled as variables. Sequences of categories which occurred in all four classes were identified as patterns of interaction. Differences in patterns as well as differences among classes for similar variables were identified. In order to determine the participation of individual pupils during the course of interaction, dyadic frequencies were tabulated.

Product measures were obtained from the results of the Ukrainian Language Skills Achievement Test. The first part of the test was group administered, and the second part was given to each pupil individually. Scoring was done directly onto a computer sheet and processed by the Research and Evaluation Division of the Edmonton Public School Board. Differences between the total pre-post test mean achievement scores were calculated to determine mean gains in each class. Further calculation of gains was made between the pre-post test sub-skills which consisted of an evaluation of the pupils' grasp of the content of the previous year, listening, reading, writing and oral production.

Relationships between total gain scores, sub-skill gain scores and teacher process variables were described for each class.

FINDINGS

1. All four classes engaged in a fairly rapid question-answer discourse which resulted in a predominant 4-6-8-3

pattern of interaction. This was reflected in a high teacher question ratio and slightly higher teacher response ratio, as well as higher pupil talk than is found in regular classrooms. The slightly higher teacher response ratio indicated that teachers tended to clarify pupils' ideas slightly more than they asked questions. The rapidity of interchange indicated that clarifications were short and that use of an elaborated code was minimal.

2. The nature of non-verbal behavior was diverse and was a result of teacher preference for implementing lesson content.

3. Both teachers and pupils spoke primarily in Ukrainian. Teacher talk in English was minimal and was used primarily for clarification of meaning. Pupils used English mainly for convergent responses indicating that comprehension precedes production.

4. Findings for teacher variables (Figure 4: 4) indicated that on the average, little use was made of acceptance of pupil feelings, divergent questions, expression of teacher beliefs, requests for choral response and criticism. Differences among teachers for similar variables did however occur (Figure 4: 5) and were identified as use of divergent question (8q), class clarification of content (3), correction for pronunciation (2), choral response (6a), request for behavioral response (6), behavioral criticism (7b). These differences were primarily a result of individual

teaching style and were not used to meet a specific objective. An exception was the emerging 6-8q-8 (directed discourse) pattern for class 1 which gave evidence that this teacher deliberately set objectives for oral production and pronunciation and used directed discourse and choral response to achieve them.

5. Findings for pupil variables (Figure 4: 8, p. 68) were found in reading, which was a result of lesson content; convergent and divergent questions, which resulted from the directed discourse which occurred in class 1. Initiation of conversation which was high in class 3 occurred as a result of the dyadic interaction of one pupil who was fluent in the target language and was therefore not indicative of the typical verbal behavior of that class. This supports the position of Good, Biddle and Brophy (1975) who recommend that data on individual pupils be gathered in order to obtain a better picture of classroom processes and teacher behavior.

6. The pupil initiation ratio (Figure 4: 11, p. 74) indicated that the pupils in classes 2 and 4 did not speak out spontaneously or express their own opinions while those in classes 1 and 3 were slightly more inclined to do so. Wragg (1970) notes that presumably only when children are sufficiently confident and feel competent will they engage in larger amounts of spontaneous talk in the target language.

7. Teacher contact with individual pupils revealed an unequal distribution of contacts with a high range of 0 to

20 percent for class 3, and 2 to 10 percent for class 1 (Table 4: 5, p. 77).

8. The possible total for the grade three ULSAT test was 135 marks. Post-test mean achievement scores were 97.8, 94.8, 79.8 and 74.8 for classes 1, 2, 3 and 4 respectively. Pre-post test mean gains were 26.8, 24.4, 25.8 and 32.9 respectively.

The possible total for the grade four ULSAT test was 145 marks. Post-test mean achievement scores were 106.3, 100.6, 88.0 for classes 1, 2 and 3 respectively. Pre-post test mean gains were 33.9, 12.2 and 24.0 respectively.

9. Stress on basic listening and speaking skills using a question-answer technique appeared to have a positive effect on the gains in all sub-skills but particularly in the section which dealt with evaluation of previously learned skills and oral production in class 4. This process did not however appear to be optimal for class 2 which had the highest achievement scores but least gains.

10. The habit formation drills which emerged as a process in class 1 did not reflect higher gains in oral production, but considerable gains were made in reading and writing which suggests a transfer from one modality of expression to another and that listening, speaking, reading and writing are integrated processes.

11. High teacher talk in Ukrainian appeared to have a positive effect on all four classes despite the disparity of gain scores in the sub-skills.

12. Results of informal discussions with the teachers revealed that they were concerned with the quality and quantity of verbal behavior for both themselves and their pupils. In some instances a rationale was given the researcher for a particular behavior, for example, teacher 3 corrected pronunciation indirectly because she felt it was more humanistic to provide a model; teacher 4 wrote on the board a great deal because she felt that the visual display was a type of reinforcement. Teacher 1 felt that higher gains were found in reading and writing because of the emphasis given to these activities owing to lack of time for preparing oral production exercises. They felt, however, that contextual variables such as split classes which resulted in lack of time for focusing on a particular skill such as oral production, and lack of materials which limited class organization for small groups or individualized instruction affected their teaching as much as verbal interaction.

CONCLUSIONS

The data suggests that the mode of communication in all four classes consisted primarily of lower-order questions and answers. Lesson content was concerned with development of vocabulary and pronunciation. Implications are that the primary objectives of the teachers were to develop a basic knowledge of the language in a formal way before moving to situations where the target language could be used for functional communication.

The product data revealed that this technique was functional in achieving gains for lower level pupils, but not for high achievers. This suggests that optimal teacher behavior requires adjusting curriculum to the level of knowledge and ability of the student. This may be implemented by two streams of instruction or small group learning centres, the content of which would be contingent upon availability of materials and teacher organizational skills.

In determining process-product relationships by means of an interaction analysis system, contextual variables such as split classes and availability of materials should be taken into consideration as well.

The role of the second language teacher is crucial in the learning process. Teachers of other disciplines have the advantage of inculcating habits, attitudes and knowledge in a medium already familiar to the students. The second language teacher must endeavor to bring about these changes using the target language which requires additional physiological, attitudinal and cognitive development on the part of the pupil.

On the basis of the above conclusions the following recommendations for teacher education and research are given.

TEACHER EDUCATION

The minimal initiation of student talk and focus on lower-order questions and answers as determined by the interaction analysis system, indicated that interaction was primarily a function of teacher behavior. This has implications for teacher educators in that education students should be made aware of the vertical articulation of language development and in the ways of integrating language skills which are applicable to each level of learning, thereby providing a basis for pupil second language experiences which will lead them beyond the basic dialogue into functional communication.

Since, as in this study, many bilingual classes are split, teacher educators should endeavor to provide students with models for classroom organization.

Since it was stated by the teachers during informal discussions that lack of materials limited the organization of learning centres and the provision of individualized instruction, it is suggested that a portion of teacher education consist of preparation of projects to meet this need. In addition to providing a model for future project development, these materials could be gathered and compiled for publication.

RESEARCH

Recommendations for further research are suggested below.

1. A replication of this study, using a larger sample where there is evidence of a higher level of second language

proficiency might reveal the use of different techniques and patterns to achieve objectives for each skill area.

2. Results of the dyadic interaction indicated that group data masks the quality and quantity of pupil teacher interaction. Therefore classroom studies which use data collected on individual students would be useful for obtaining information about teaching.

3. An attempt might be made to use stimulated recall which would focus on teacher interpretation of curriculum thereby providing information with regard to optimum teaching procedures for a target group.

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APPENDICES

APPENDIX A

- Ukrainian Language Skills Achievement Test
- Language Proficiency Levels

UKRAINIAN GRADE THREE SURVEY TEST
PART I

Name ______________________________

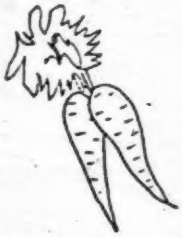
School ____________________ Room ____

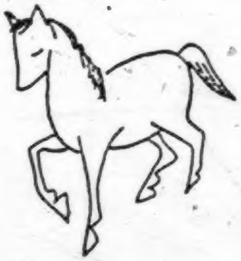
CLUSTER 1: Reading Readiness - beginning sounds

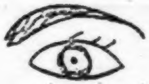
Look at the row of pictures next to the Ukrainian letter. Circle the picture that begins with the letter given in each row.

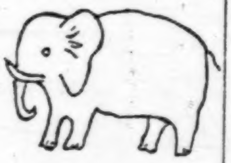
SAMPLE A

C









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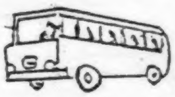

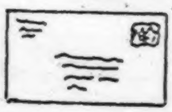

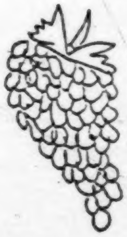

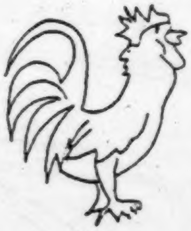

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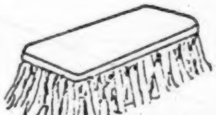
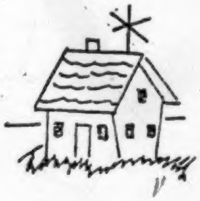
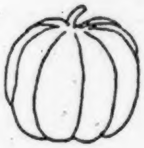
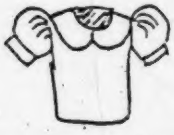
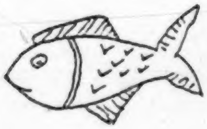
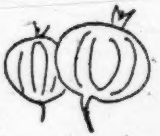
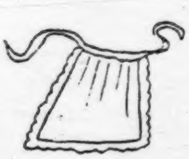
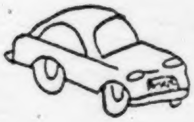
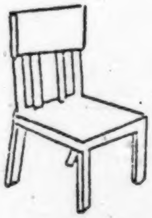
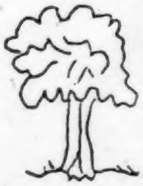
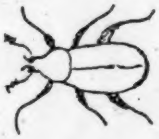
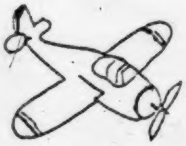
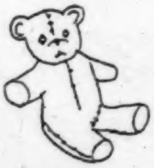
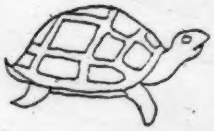
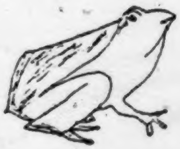
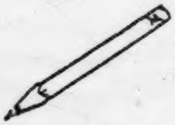
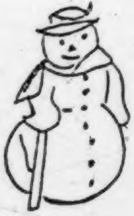
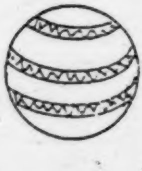
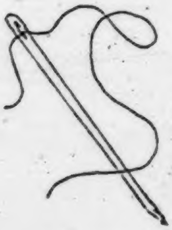
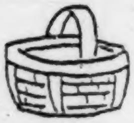
1. Щ	   
2. Ц	   
3. Ж	   
4. Ч	   
5. Г	   

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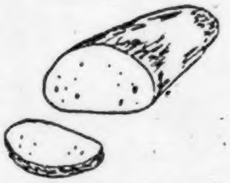
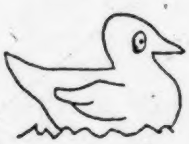
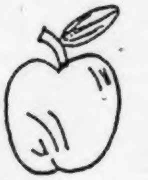
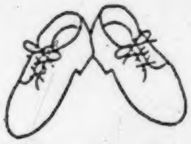






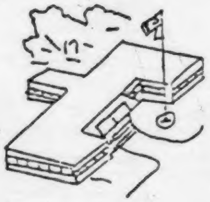


CLUSTER 2: Beginning sounds and ending sounds

Write in the boxes the BEGINNING Ukrainian sound and the ENDING Ukrainian sound of each object shown. You may use capital or small case letters.

SAMPLE C

Beginning



Ending

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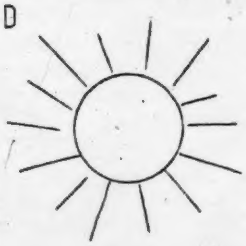
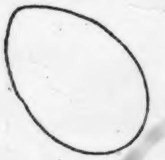


Ending

7.

Beginning



8.

Ending

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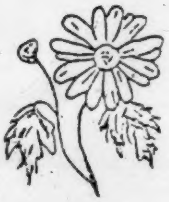

10.

Ending

11.

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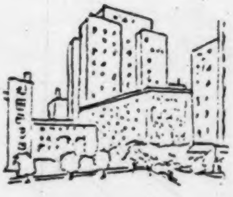
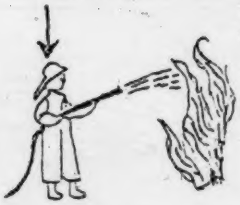


12.

Ending

13.

Beginning



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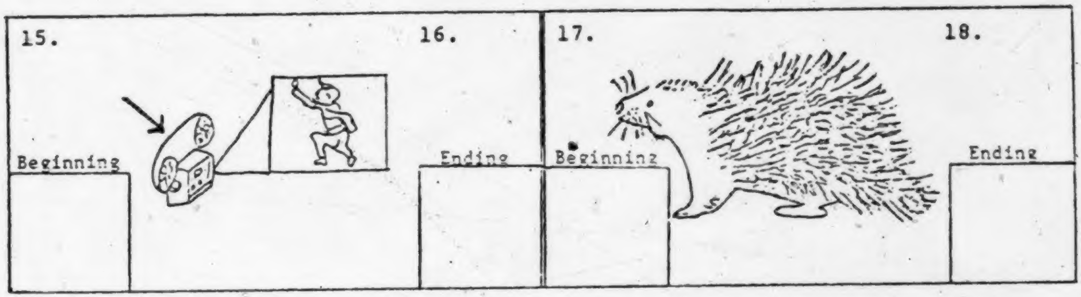
Ending


15.
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Beginning
Ending
Beginning
Ending

CLUSTER 3: Silent Reading

Read each story and then answer the questions. Pick the answer to the question by underlininc the correct answer.

SAMPLE STORY

Ко́тик і пе́сик

Ко́тик п'є́ молоко́. Пе́сик не п'є́ молока́.
Пе́сик не лю́бить молока́.

SAMPLE E

Хто́ не лю́бить молока́?

A. ко́тик
B. пе́сик
C. курча́
D. теля́тко

SAMPLE F

Хто́ п'є́ молоко́?

A. ко́тик
B. пе́сик
C. курча́
D. теля́тко

5

Story one:

Зеле́на Жа́ба

Рома́н ішо́в до шко́ли. Ві́н поба́чив зеле́ну жа́бу і хоті́в злови́ти її́, а́ле жа́ба втікла́.

19. Що Рома́н хоті́в злови́ти?
    - А. жо́втень
    - Б. жа́бу
    - С- шко́лу

20. Що він поба́чив?
    - А. зеле́ну жа́бу
    - Б. бі́лого за́йчика
    - С. зеле́ну траву́

21. Чому́ жа́ба втікла́?
    - А. Рома́н ішо́в до шко́ли.
    - Б. Рома́н поба́чив жа́бу.
    - С. Рома́н хоті́в жа́бу злови́ти.

6

Story two:

За́йчики в лі́сі

В лі́сі зима́. Бага́то сні́гу впа́ло.
Та́м бі́лі за́йчики бі́гають по снігу́.
Дерева́ покри́ті сні́гом.

22. Де ліс?

А. у мі́сті
Б. на буди́нку
С. за мі́стом
Д. під землé́ю

23. По чо́му за́йчики бі́гають?

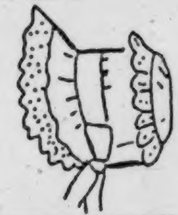
А. За́йчики бі́гають по воді́.
Б. За́йчики бі́гають по траві́.
С. За́йчики бі́гають по леді́.
Д. За́йчики бі́гають по снігу́.

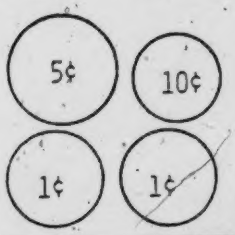
24. Що сніг покрива́є?

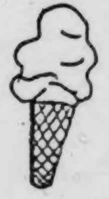
А. лі́жко
Б. дерева́
С. пташки́
Д. за́йчики

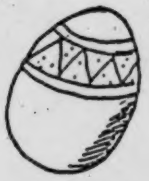
CLUSTER 4: Listening Comprehension

SAMPLE G









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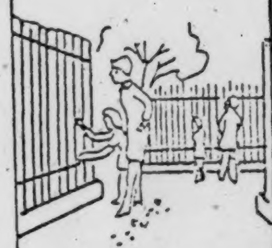

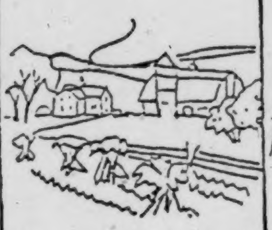

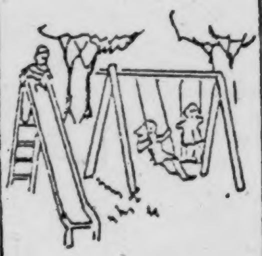

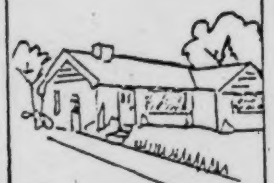

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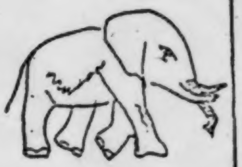

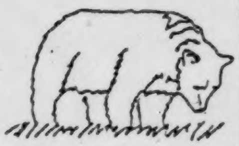

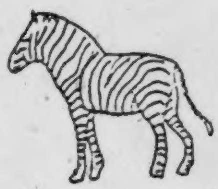

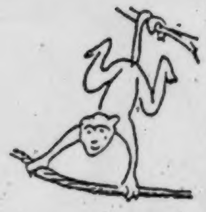

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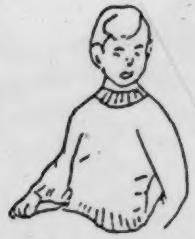

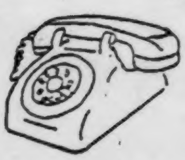

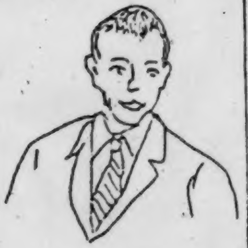

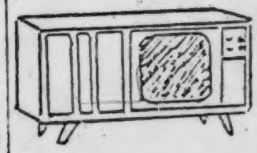

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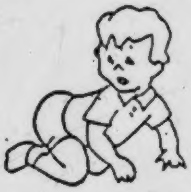
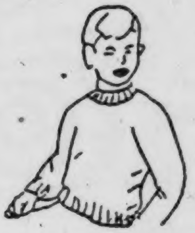
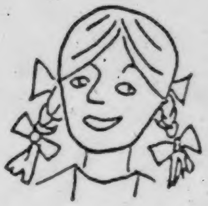
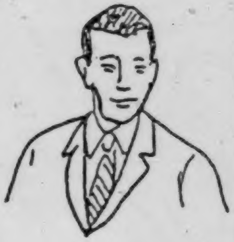
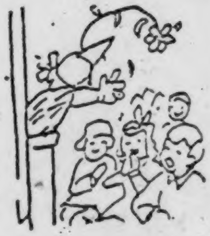
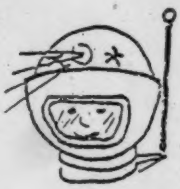
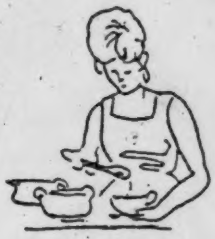
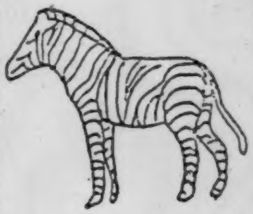
28 			
29 			

SAMPLE H

	A. зайчик	B. коро́ва	C. жа́ба
30.	A. шко́ла	B. це́рква	C. крамни́ця
31.	A. сні́г	B. яйце́	C. молоко́
32.	A. сло́н	B. ка́чка	C. ми́ша
33.	A. сонце́	B. мі́сяць	C. зі́рка

UKRAINIAN GRADE THREE SURVEY TEST
PART II

Name ______________________________

School ____________________ Room ___

CLUSTER 5: Sequencing

SAMPLE I

______ Ле́ся діста́ла суке́нку.

______ Ма́ма поїхала до крамни́ці.

______ Ма́ма купи́ла суке́нку.

SAMPLE J

______ Ми пішли́ до зоопа́рку.

______ Ми ї́хали автобу́сом.

______ Ми ба́чили ма́впу.

34. ______ Я одяга́юся.

______ Я йду́ до це́ркви.

______ Я вста́ю.

35. ——— Ма́ма виробля́є па́ску.

——— Ма́ма пече́ па́ску.

——— Ма́ма мі́сить ті́сто.

36. ——— Я чита́ю.

——— Я йду́ до шко́ли.

——— Я сіда́ю в кля́сі.

37. ——— Ли́стя па́дає.

——— Ді́ти загріба́ють ли́стя.

——— Ли́стя жо́втіє.

38. ——— Ді́ти ро́блять сніго́ву ба́бу.

——— Сніг па́дає.

——— Ді́ти ро́блять ніс для ба́би з мо́ркви.

39. ——— Я чи́щу зу́би.

——— Я йду́ до лі́жка.

——— Я ї́м вече́ру.

11

CLUSTER 6: Synonyms, Antonyms

SAMPLE K Ялинка дуже красна.

A. зеле́на
B. га́рна
C. висо́ка

---

40. Моя́ ха́та га́рна.

A. візо́к
B. дім
C. соро́чка

---

41. Надво́рі хо́лодно.

A. те́пло
B. ти́хо
C. зи́мно

---

42. Ле́сю, біжи́ ско́ро.

A. там
B. сюди́
C. шви́дко

---

43. Мурко́ спокі́йний ко́тик.

A. чо́рний
B. вели́кий
C. ти́хий

CLUSTER 6: Opposites

SAMPLE L Моє́ крі́сло мале́, а лі́жко ____________.

A. по́вне
B. до́бре
C. вели́ке

Ле́ся весе́ла, вона́ сміє́ться.

44. Оле́нка сумна́, вона́ ______________.

A. кричи́ть
B. говоря́ть
C. пла́че

---

45. Взимі́ хо́лодно надворі́, а вхаті́ ____________.

A. га́рно
B. те́пло
C. шви́дко

---

46. Сірко́ чи́стий, а Мурко́ ______________.

A. брудни́й
B. весе́лий
C. бі́лий

---

47. Мої́ чо́боти мо́крі, а ру́ки ______________.

A. брудні́
B. сухі́
C. вели́кі

---

48. Ри́ба мо́кра, а пта́шка ______________.

A. Брудна́
B. суха́
C. велика́

13

CLUSTER 6 : Same or different

SAMPLE M Ми́шка мала́. Вона́ невели́ка.

A. таке́ са́ме
B. іна́кше

SAMPLE N Моя́ соро́чка чи́ста Мої́ череви́ки брудні́.

A. таке́ са́ме
B. іна́кше

---

49. Цу́кор соло́дкий. Цитри́на квасна́.

A. таке́ са́ме
B. іна́кше

---

50. Я живу́ бли́зько це́ркви. Це́рква коло́ шко́ли. Мені́ до шко́ли недале́ко.

A. таке́ са́ме
B. іна́кше

---

51. Ця скля́нка по́вна. Це горня́тко поро́жне.

A. таке́ са́ме
B. іна́кше

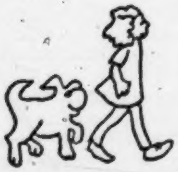
---

52. У ра́нці я́сно. В ночі́ те́мно.

A. таке́ са́ме
B. іна́кше

CLUSTER 7: Prepositions and pronouns

SAMPLE 0 Ді́вчина іде́



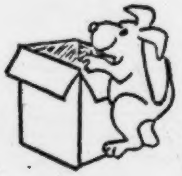
A. пе́ред пе́сиком

B. за пе́сиком

C. ко́ло пе́сика

---

53. Пе́сик



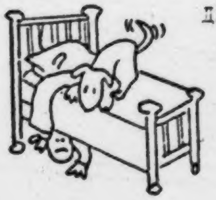
A. під коро́бкою

B. у коро́бці

C. коло коро́бки

---

54. Ді́вчина



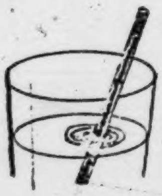
A. ко́ло лі́жка

B. під лі́жком

C. на лі́жку

---

55. Соло́мка



A. ко́ло води́

B. у воді́

C. на воді́

SAMPLE P Мурко́ п'є́ молоко́. __________ бі́ле й те́пле.

A. Воно́
B. Ві́н
C. Вона́

SAMPLE Q Оле́нка ма́є ля́льку. __________ га́рна ля́лька, ка́же Оле́нка.

A. Воно́
B. Ві́н
C. Вона́

---

56. Рома́н ма́є черво́ний м'яч. __________ бу́де ба́витися м'яче́м.

A. Ві́н
B. Вона́
C. Воно́

---

57. Я ма́ю бі́лу ша́пку. Чи __________ ма́єш ша́пку?

A. Я
B. ти
C. воно́

SAMPLE R Ле́ся йде́ до крамни́ці. Вона́ ку́пить цуко́рки.

A. цуко́рки
B. Ле́ся
C. крамни́ця

---

58. Тара́с і Петро́ хо́чуть ї́хати до до́му, а Оле́нка не хо́че ї́хати.

A. вона́
B. ві́н
C. вони́

CLUSTER 8: Silent Reading for Details

SAMPLE S

Жа́ба зеле́на.
Жа́ба ска́че сюди́.
Вона́ ска́че туди́.
Вона́ ска́че у во́ду.
Мурко́ хо́че лови́ти жа́бу.

1. Яко́го ко́льору жа́ба?
   - A. хво́ра
   - B. зеле́на
   - C. вода́

2. Від ко́го втіка́є жа́ба?
   - A. жа́би
   - B. води́
   - C. Му́рка

Story one:

Тара́с і Оле́нка пішли́ до крамни́ці.
Ма́ма каза́ла купи́ти молока́, хлі́ба й ма́сла.
Оле́нка хоті́ла купи́ти моро́зива.

59. Хто каза́в купи́ти молока́, хлі́ба й ма́сла?
   - A. Тара́с
   - B. ма́ма
   - C. та́то

60. Що Оле́нка хоті́ла купи́ти?
   - A. молока́
   - Б. моро́зива
   - C. хлі́ба

Story two: Петро́ побі́г до двере́й.
Він поба́чив та́та.
Та́то прині́с йому́ ко́тика.
Ко́тик був чо́рний і бі́лий.

---

61. Куди́ побі́г Петро́?

A. до ко́тика

B. до та́та

C. до двере́й

---

62. Шо та́то прині́с?

A. две́рі

B. ко́тика

C. Петра́

Story three: Ма́ма в ку́хні.
Вона́ спекла́ ко́ржики.
Оле́нка хоче́ ї́сти їх.
Тут ко́ржики, й молоко́.
Вже мо́жна ї́сти.

---

63. Шо ма́ма спекла́?

A. ку́хню

B. хліба́

C. коржи́ки

---

64. З чим Оле́нка ї́ла коржи́ки?

A. з хлі́бом

B. з коржи́ком

C. з молоко́м

CLUSTER 9: Silent Reading for Main Idea

SAMPLE T
У ме́не чо́рний ведме́дик.
У ньо́го вели́кі, си́ні о́чі.
Я люблю́ ведме́дика.
Ма́ма купи́ла його́ мені́.

Main idea

А. Си́ні о́чі
В. Мій ведме́дик
С. Моя́ ма́ма

Story one: Учи́телька ка́же, "Час іти́
до бібліоте́ки".
Ді́ти сіда́ють і чита́ють кни́жки.
Все́ спокі́йно.

65. Main idea

А. У вмива́льні
В. У канцеля́рії
С. У бібліоте́ці

Story two: Ми хо́чемо Ї́сти. Ма́ма
ка́же, "Ми не бу́демо Ї́сти
в до́ма. Та́ту, Ї́дьмо до
Мекдо́налдз.
Ку́пимо ку́рку, кукуру́дзу,
та ковба́ску з бу́лкою."

66. Main idea

А. Кукуру́дза
В. Час Ї́сти
С. В до́ма

12

Story three: Дзвінóк дзвóнить. Ді́ти одягáються.
Вони́ берýть м'яч й скакáлку. Вони́
грáються на дворі́.

67. Main idea

A. Ді́ти в дóма
B. Ді́ти на перéрві
C. Ді́ти в клáсі

Story four: Роди́на сідáє вечéряти.
На столі́ інди́к, городина́ й óвочі.
Тáто дя́кує Бóгові за гáрний врожáй.

68. Main idea

A. День Нарóдження
B. День Мáтері
C. День Пóдяки

Story five: Ось Листонóша. Він мáє тóрбу.
У тóрбі листи́ й журнáли.
Мóже для мéне є ли́ст.

69. Main idea

A. Листонóша
B. Данти́ст
C. Поже́жник

Story six: Сього́дні та́то і я бу́демо коси́ти траву́.
Поті́м бу́демо загіба́ти траву́.
А ма́ма пода́сть нам "лимонна́ду.

70. **Main idea**

A. Пра́ця

B. Заба́ва

C. Ігра́

UKRAINIAN GRADE THREE SURVEY TEST
PART III

Name ____________________

School ____________________ Room ___

CLUSTER 1: Dictation of Words, Phrases and Sentences

SAMPLE U

First Word ____________________

Second Word ____________________

71. ____________________

72. ____________________

73. ____________________

74. ____________________

75. ____________________

SAMPLE V

Phrase ____________________

Sentence ____________________

76. ____________________

____

77. ______________________________

____

78. ______________________________

____

79. ______________________________

____

80. ______________________________

____

81. ______________________________

____

CLUSTER 2: Written Responses to Noun Riddles

SAMPLE W
Я білий.
Я па́даю взимі́.
Я ________.

82.
Я буди́нок.
Люде прихо́дять до ме́не в неді́лю.
Вони́ тут мо́ляться.
Я ____________

83.
Та́то ужива́є мене́ би́ти цвя́хи.
Я ________.

84.
Ві́дьма ї́здить на ме́ні.
Я ________.

85.
Уже полу́дне.
Я голо́дна.
Час ї́сти ________.

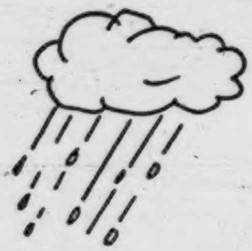
86.
Я ма́ю чоти́ри но́ги.
Я живу́ на фа́рмі.
Я даю́ молоко́.
Я ________.

87.
Я зро́блена з папе́ру.
Я ма́ю сторі́нки.
Ді́ти мене́ чита́ють.
Я ________.

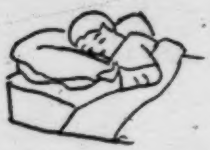
CLUSTER 3: Writing Descriptive Sentences

SAMPLE X

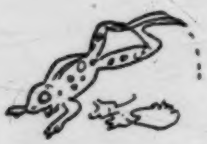
Picture one:
What is happening in the picture?



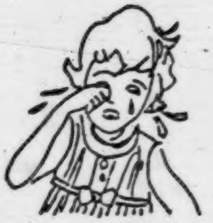
Picture two:
What is happening in the picture?



88. What is happening in the picture?



89. What is happening in the picture?

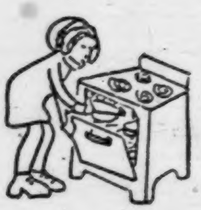


____

____

____

90. What is happening in the picture?

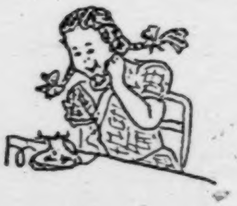


____

____

____

91. What is happening in the picture?

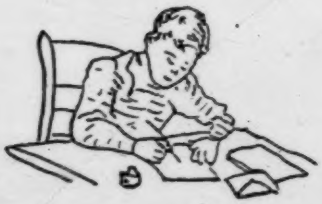


____

____

____

92. What is happening in the picture?



____

____

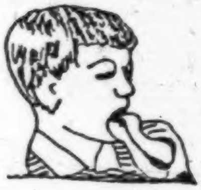
____

93. What is happening in the picture?

____

____

____

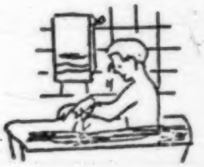


CLUSTER 5: Writing - responding to picture

SAMPLE Y

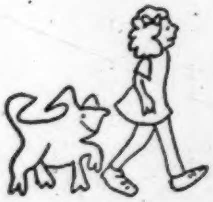
Picture one:

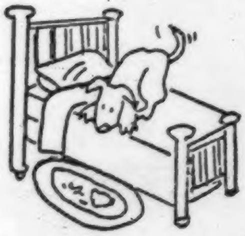
Хло́пець сиди́ть _____ ва́нні.



Picture two:

Пе́сик _____ ді́вчиною.

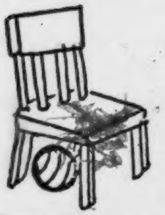




94. Пе́сик _____ лі́жку.

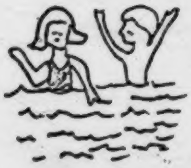
95.

М'яч ______ крі́слом.



96.

Ді́ти _____ воді́.



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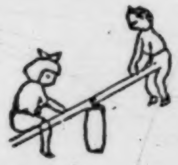
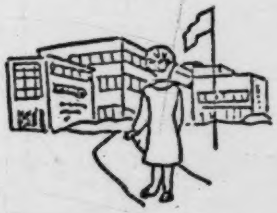
97. Ді́вчина го́йдається ____ хло́пцем.



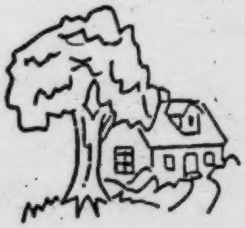
98.

Ба́ба йде _____ шко́ли.



99.

Де́рево __________ ха́ти.



UKRAINIAN GRADE 3 SURVEY TEST

PART IV ORAL
Cluster 5
Oral Reading

Story One:

100-101 Диви́сь, там ді́вчина!

102-103 Вона́ ма́є забавки́.

104-105 Чи вона́ і́де до шко́ли?

106-107 У ха́ті дід і ба́ба.

Story Two:

108-109 Рома́не! Ходи́ сюди́!

110-111 Диви́сь, тут кі́нь!

112-113 Куди́ кі́нь біжи́ть?

114-115 Кі́нь біжи́ть до ста́йні.

UKRAINIAN GRADE FOUR SURVEY TEST

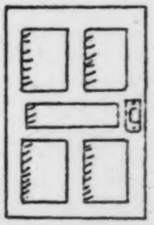
PART ONE

NAME ______________________________

SCHOOL ______________________________ ROOM __________

ПРИКЛАД А:

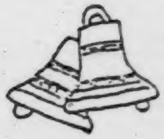
Початкові звуки:



C. ДЗ

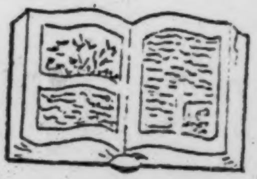
A. КН B. ГН C. ДВ

1. Початкові звуки:



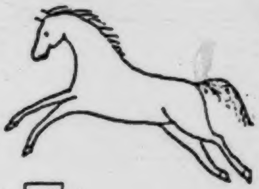
A. ЗВ B. ДЗ C. ДВ

2. Початкові звуки:



A. КН B. КШ C. ХН

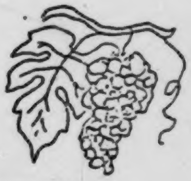
ПРИКЛАД Б.
Кінцеві звуки



A. НЬ

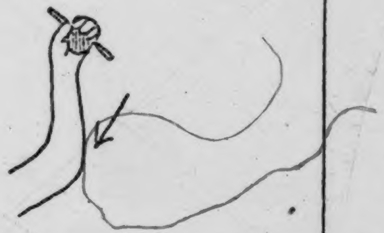
A. НЬ   B. Н   C. П

3. Кінцеві звуки



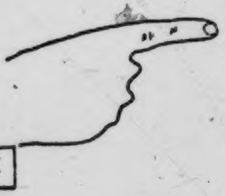
A. Т   B. ДЬ   C. Д

4. Кінцеві звуки



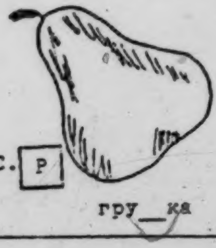
A. Т   B. ТЬ   C. Д

5. Кінцеві звуки



A. ЦЬ   B. С   C. Ц

ПРИКЛАД В.
Середні звуки

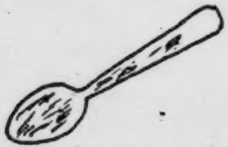


A. Ш

A. Ш   B. Ж   C. Р

гру__ка

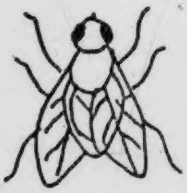
6. Середні звуки



А. Ш В. Ж С. Щ

ло__ка

7. Середні звуки



А. Г В. Ф С. Х

му__я

Оповідання перше.

Пої́здка на о́зеро

Роди́на пої́хала на вели́ке о́зеро. Та́то з дітьми́ попли́в чо́вно́м лови́ти ри́бу. Ма́ма зали́шилася на бе́резі пригото́вити перекуску.

8. Куди́ пої́хала роди́на?

А. до ба́би. В. на о́зеро С. на фа́рму

9. Що вони́ хоті́ли злови́ти?

А. о́зеро В. пта́хів С. ри́бу

10. Що ма́ма буде́ роби́ти?

А. приготовля́ти пере́куску

В. приготовля́ти ри́бу

С. пла́вати

Оповідання Друге.

Авто́бус

Я ї́жджу до шко́ли авто́бусом. Цим авто́бусом ї́здять ті́льки школярі́. В авто́бусі ми сидимо́ спокі́йно і розмовля́ємо поти́хо.

II. Чим я ї́жджу до шко́ли?

А. велисопе́дом В. а́втом С. авто́бусом

I2. Як ми сидимо́ в авто́бусі?

А. спокі́йно В. неспокі́йно С. ска́чемо

I3. А. Петро́ й А́нна
В. Тара́с й Марі́я
С. Васи́ль і Марі́я

I4. А. чо́рні й коро́ткі
В. до́вгі й чо́рні
С. я́сні й до́вгі

I5. А. влі́ті В. у вівто́рок С. восени́

I6. А. літні́ В. різдвя́ні С. велико́дні

I7. Кого́ ді́ти бу́дуть зустріча́ти?

А. дру́зів і вчителі́в
В. учителі́в і ро́дичів
С. сусі́дів і дру́зів

I8. Яку чи́танку ді́ти почну́ть чита́ти?

А. зеле́ну
В. нову́
С. ціка́ву

I9. А. дош В. сніг С. град

20. А. я́щірка В. тхі́р С. їжа́к

2I А. о́чі В. воло́сся С. ро́зум

Приклад Д.
А. ха́ту В. майда́нчик С. мяч

22. A. полеті́ти B. невпа́сти C. засмія́тися

23. A. забавки́ B. цуко́рки C. ліка́рство

24. A. барабо́лі B. я́блука C. квасо́лю

25. A. калю́жу B. пісо́к C. крини́цю

26. A. крамни́ці B. теа́трі C. музе́ю

27. A. корабле́м B. літако́м C. а́втом

28. A. ко́ржик B. лимона́д C. хлі́ба

29. A. ліні́йки B. ло́жки C. олівця́

Виберіть правильне слово.

30. Пта́шка літа́є.
_______ літа́ють.

A. пта́шка B. пта́шку C. пташки́

31. Я ма́ю ніс.
Вони́ ма́ють _________.

A. но́са B. носи́ C. но́сом

Виберіть правильний звук.

32. ___ерепа́ха не за́вжди вели́ка.

A. ч B. ш C. щ

33. Тре́ба __оди́ти до шко́ли.

A. г B. х C. к

34. Дивлю́ся в __е́ркало.

A. з B. ж C. дз

35. Укра__́нці до́брі лю́ди.

A. я B. є C. ї

36. Р__́чка тече́ доли́ною.

А. а   В. і   С. и

37. Кі__ біжи́ть.

А. нь   В. сь   С. ть

Котре́ сло́во непра́вильно напи́сане?

38. А. їжа́к   В. і́сти   С. і́де

39. А. сир   В. сама́   С. цуко́нка

Котре́ сло́во риму́ється з оста́ннім сло́вом у першому ряді?

40. Ко́тик мали́й ріс і ріс.
Бі́лий хві́ст, чо́рний _____.

А. ніс   В. ніж   С. не́бо

41. У коро́ви є ро́ги.
Вона́ ча́сом стає́ мені́ на ________.

А. па́льці   В. не́бо   С. но́ги

Виберіть правильне слово.

42. Ма́ма сі́ла на ____________.

А. крі́сло   В. кни́жка   С. ка́чка

43. ____________ дає́ нам молоко́.

А. Ка́чка   В. Крило́   С. Коро́ва

44. Цей __________ виси́ть ко́ло вікна́.

А. о́ко   В. о́браз   С. олі́вець.

45. На́ша __________ вели́ка.

А. шко́ла   В. штани́   С. ши́ни

46. На не́бі є ____________.

А. мі́сяць В. ми́ска С. Мурко́

47. Столи́ця Альбе́рти є ________________.

А. Льві́в В. Едмонто́н С. Ки́їв

48. В ночі́ ______________.

А. со́нячно В. те́мно С. я́сно

49. Ми купа́ємося в _____________.

А. вмива́льні В. ку́хні С. їда́льні

Ви́беріть сло́во котре́ підхо́дить до змі́сту.

50. школа - А. ла́вка (парта)
В. пої́зд
С. со́нце

51. чове́н - А. ліс
В. вода́
С. ко́лесо

52. чолові́к - А. ци́рк
В. ма́сло
С. жі́нка

53. у́чень - А. кни́жка для впра́в
В. а́вто
С. смітни́к

54. сорок - А. пта́шка
В. число́
С. їжа́

Що значи́ть підкре́слене сло́во?

55. Сього́днішня пого́да є га́рна.

A. дощева́ B. хмарна́ C. со́няшна

Ви́беріть пра́вильне сло́во.

56. Кни́жка впа́ла з ла́вки на підло́гу.

Книжка
A. на ла́вці
B. під ла́вкою
C. у ла́вці

Прочита́йте опові́дання і ви́беріть пра́вильну відпові́дь.

Пан Коза́к підійшо́в до крі́сла. Він засвіти́в вели́ке сві́тло. "Про́шу відкри́ти рот" - він сказа́в. Пізніше він мені́ сказа́в, що я ма́ю одну́ мале́ньку ді́рку. Він влучи́в маши́ну.

57. Що пан Коза́к?

A. поліци́ст B. лі́кар C. денти́ст

58. Де пан Коза́к знайшо́в ді́рку?

A. в зу́бі B. в крі́слі C. на підло́зі

59. Чому́ він влучи́в маши́ну?

A. Він хоті́в чу́ти ґу́ркіт.
B. Він хоті́в запломбува́ти зуб.
C. Він хоті́в напра́вити маши́ну.

Марко́ спізни́вся на сніда́нок. Коли́ він сів до стола́, ми́ска вже була́ на столі́. Його́ ка́ша була́ гаря́ча.

60. Коли́ ма́ма поста́вила їжу́ на сті́л?

A. Годи́ну за́ки Марко́ прийшо́в.
B. Коли́ Марко́ вже сиді́в при столі́.
C. Коли́ Марко́ ввійшо́в в ку́хню.

Ра́нком я завжди́ п'ю овоче́вий сік. З о́вочів я набира́ю здоро́в'я й перема́гаю всіх хло́пців. А молоко́ ще корисні́ше. Уве́чері я п'ю молоко́.

61. Коли́ я п'ю овоче́вий сік?

A. на сніда́ння B. на обі́д C. на пере́куску

62. Я п'ю сік та молоко́

A. бо хо́чу захворі́ти.
B. бо хо́чу набра́ти ене́ргії.
C. щоб ма́ма не крича́ла.

Лари́са та О́лег ди́вляться вго́ру на де́рево. Їх змі́й там замота́вся.

63. Як Лари́са та О́лег чу́ються?

A. сумні́ B. весе́лі C. настра́шенчий

Андрі́й був в лі́жку. Він був сам. Кімна́та була́ те́мна. Андрі́й поба́чив вели́ку тінь. Тінь поча́ла ру́хатися. "Рятуйте!" закрича́в Андрій.

64. Як Андрі́й чу́вся?

A. весе́лий B. настра́шений C. втомле́ний

Ко́жного ра́нку Рома́н розно́сить газе́ти лю́дям в свої́м сусі́дстві. Одно́го ра́нку Рома́н вста́в з страшни́м ка́трем. Він задзвони́в О́лі та попроси́в її зроби́ти йому́ вели́ку прислу́гу.

65. Що Рома́н проси́в щоб О́ля зроби́ла?

A. покли́кала лі́каря
B. завезла́ його́ до шко́ли
C. рознесла́ газе́ти.

66. Чому́ Рома́н вдо́ма?

A. бо втомле́ний B. бо перестуджений C. бо лі́нивий

Котре́ ре́чення смішне́?

67. A. Ді́ти гра́лися на майда́нчику.
B. Ко́тики спіши́ли на тане́ць.
C Учи́телька прочита́ла дітя́м казку.

68. A. Під час Вели́кодня ми вбира́ємо яли́нку.
B. Кожни́й з нас, раз на рік, святку́є уроди́ни.
C. Тара́с Шевче́нко найславні́ший украї́нський пое́т.

69. A. Я́блуко мо́же співа́ти.
B. Пе́сик га́вкає.
C. Люди́на гово́рить.

70. A. Дити́на сиди́ть на крі́слі.
B. А́нна працю́є в крамни́ці.
C. Лю́ба чита́ла ка́зку під водо́ю.

7I. A. Па́чка кредо́к ско́чила зі стола́.
B. Миросла́ва впа́ла і зломи́ла но́гу.
C. Фа́рба розля́лася по підло́зі.

UKRAINIAN GRADE FOUR SURVEY TEST

PART TWO

NAME ____________________

SCHOOL ____________________ ROOM __________

Writing

Cluster 1: Writing - Sentence Dictation

> Я буду вам диктувати п'ять речень. Слухайте уважно і пишіть. Я прочитаю кожне речення три рази. Перший раз нормальним темпом, другий - дуже повільно, а а третій - прочитаю, щоб ви перевірили.

72-73-74

75-76-77

78-79-80

81-82-83

84-85-86

Cluster 2: Writing Scrambled sentences in correct word form.

Складіть речення з помішаних слів.

87-88 грається сидить і лялькою Наталка.

89-90 на Діти до діда баби поїхали Й фарму.

91-92 морозиво купити Павло крамниці пішов до.

93-94 Прошу хаті двері зачинити, бо в холодно.

95-96 святив біля Священик церкви паски.

Cluster 3: Creative Writing.

Напишіть п'ять речень. Вживайте кожне подане слово в реченні. Речення мусить мати більше як три слова.

97-98-99 ходив

100-101-102 чому

103-104-105 співаймо

I06-I07-I08- смачний

I09-I10-III працює

Cluster 4: Oral Reading. (112 - 125)
Stories produced separately
Individually administered

Cluster 5: Oral Response Using Picture Stimulus (126 - 140)
Picture produced separately
Individually administered

UKRANIAN GRADE FOUR SURVEY TEST

Material for questions 112 - 125

POEM

Вказівки́ для вірша́ і опові́дання:

Прочита́й пе́рший раз поти́хо. Дру́гий раз зго́лос.
Чита́й з до́брим на́голосом і з почуття́м.

РІ́ДНА МО́ВА

Мо́во рі́дна, сло́во рі́дне!
Хто вас забува́є,
той у гру́дях не серде́нько,
а лиш ка́мінь має.

Тара́с Шевченко

Story A

Яблука

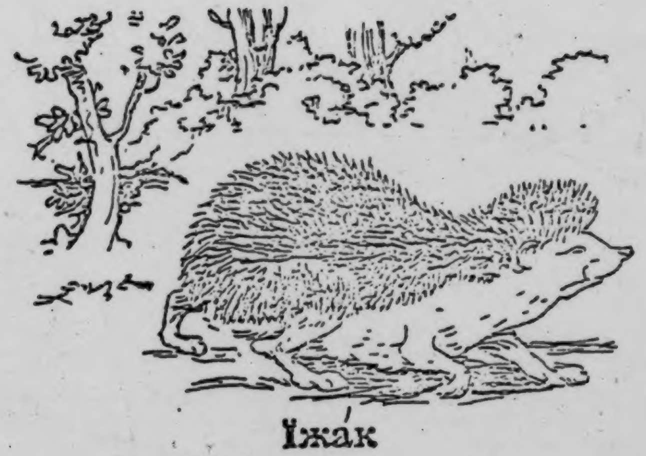
Мати пішла на роботу. А діти побігли купити яблук. Недалеко від нашого дому можна купити банани, виноград, яблука, сливки й грушки.

Діти принесли багато яблук. А потім лягли спати.

Story B

Білка й голуби

У парку білка й голуби.
Білка сива, а голуби білі.
Борис гукає голубові:
— Гулі, гулі, гулі!
А білка вже на землі.
— Не бери, не руш білки!
Вона загине в неволі.



Їжак

Story C 1

Ми поїхали за місто. За містом був великий ліс.

Бачимо — стоїть собака й гарчить. Я туди, а там їжак.

— Пусти його, — сказав Юрко. — Він у лісі добре ловить миші.

Їжак лишився в лісі.

QUALIFICATIONS FOR TEACHERS OF MODERN FOREIGN LANGUAGES

"Qualifications for Secondary School Teachers of Modern Foreign Languages", Appendix B, as revised in Wilmarth E. Starr, "MLA Foreign Language Proficiency Tests for Teachers and Advanced Students", PMLA (Publications of the Modern Language Association of America) Vol. LXXVII, No. 4, Part 2 (September, 1962), pp. 31-37.

COMPETENCE	SUPERIOR	GOOD	MINIMAL
Listening Comprehension	Ability to follow closely and with ease all types of standard speech such as rapid or group conversation and mechanically transmitted speech.	Ability to understand conversation of normal tempo, lectures, and news broadcasts.	Ability to get the sense of what an educated native says when he is making a special effort to be understood and when he is speaking on a general and familiar subject.
Speaking	Ability to speak fluently, approximating native speech in vocabulary, intonation, and pronunciation. Ability to exchange ideas and to be at ease in social situations.	Ability to talk with a native without making glaring mistakes and with a command of vocabulary and syntax sufficient to express one's thoughts in conversation at normal speed with reasonably good pronunciation.	Ability to read aloud and to talk on prepared topics (e.g. for classroom situations) without obvious faltering, and to use the common expressions needed for getting around in the foreign country speaking with a pronunciation understandable to a native.
Reading	Ability to read almost as easily as in English material of considerable difficulty.	Ability to read with immediate comprehension prose and verse of average difficulty and mature content.	Ability to grasp directly (i.e. without translating) the meaning of simple, nontechnical prose except for an occasional word.
Writing	Ability to write on a variety of subjects with idiomatic naturalness, ease of expression, and some feeling for the style of the language.	Ability to write a simple "free composition" such as a letter with clarity and correctness in vocabulary, idiom and syntax.	Ability to write correctly sentences or paragraphs such as would be developed orally for classroom situations and to write a simple description or message without glaring errors.

COMPETENCE	SUPERIOR	GOOD	MINIMAL
Applied Linguistics	The "good" level of competency with additional knowledge of descriptive comparative, and historical linguistics	The "minimal" level of competency with additional knowledge of the development and present characteristics of the language.	Ability to apply to language teaching an understanding of the differences in the sound systems, forms, and structures of the foreign language and English.
Culture and Civilization	An enlightened understanding of the foreign people and their culture, such as is achieved through personal contact, through travel and residence abroad, through study of systematic descriptions of the foreign culture, and through study of literature and the arts.	The "minimal" level of competency with first hand knowledge of some literary masterpieces and acquaintance with the geography, history, art, social customs, and contemporary civilization of the foreign people.	An awareness of language as an essential element of culture and an understanding of the principal ways in which the foreign culture differs from our own.
Professional Preparation	A mastery of recognized teaching methods, evidence of breadth and depth of professional outlook, and the ability to experiment with and evaluate new methods and techniques.	"Minimal" level of competency plus knowledge of the use of specialized techniques, such as audiovisual aids, and of the relation of language teaching to other areas of the curriculum. Ability to evaluate the professional literature of foreign language teaching.	Knowledge of the present-day objectives of the teaching of foreign language as communication and an understanding of the methods and techniques for attaining these objectives.

N.B. The names of the seven competencies were also slightly modified and appear in the test batteries as listed here.

APPENDIX B

- Interaction Analysis Coding Sheet
- Dyadic Tally Sheet (Pupil)
- Dyadic Interaction Tally Sheet (Class)
- Computer Coding Sheet

INTERACTION ANALYSIS
CODING SHEET

CLASS ________ SESSION ________ DATE ________ TIME ________

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DYADIC INTERACTION TALLY SHEET (PUPIL)

CLASS ______ PUPIL # ______ TOTAL ______

	Session					Session			
	1	2	3	total		1	2	3	total
1					6				
2					6c				
2r					6b				
2E					7				
3					7b				
3c					7bE				
3cE					8				
3x					8E				
3xE					8a				
4					8r				
4E					9E				
4d					9				
4dE					9c				
5					9cE				
5E					9q				
5b					9qE				
5c					10				
5p									

DYADIC INTERACTION TALLY SHEET (CLASS)

CLASS ______ SESSION ______ TOTAL ______

	Sum of Categories	Total		Sum of Categories	Total
1			5pE		
2			6		
2r			6c		
2E			6b		
3			7		
3c			7b		
3cE			7bE		
3x			8		
3xE			8E		
4			8a		
4E			8r		
4d			9E		
4dE			9		
5			9c		
5E			9cE		
5b			9q		
5c			9qE		
5p			10		

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STANDARD ANSWER SHEET

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APPENDIX C

- Pre-Post Test Scores
- 't' Test Results
- Individual Pupil Achievement and Gain Scores

PRE-POST TEST SCORES

ACHIEVEMENT, GAINS, STANDARD DEVIATIONS

GRADE THREE

					CLASS S.D. *	
CLASS	N	PRE	POST	MEAN GAIN	PRE	POST
1	4	71.0	97.8	26.8	28.39	21.04
2	10	70.4	94.8	24.4	30.37	19.10
3	13	54.0	79.8	25.8	17.58	15.42
4	25	41.4	74.3	32.9	19.93	20.61

** TEST MEAN PRE 58.4 POST 86.3

** TEST S.D. PRE 24.55 POST 21.04

GRADE FOUR

					CLASS S.D.	
CLASS	N	PRE	POST	GAIN	PRE	POST
1	8	72.4	106.3	33.9	19.92	13.93
2	9	88.4	100.6	12.2	31.24	24.59
3	10	64.0	88.0	24.0	20.21	19.60

** TEST MEAN PRE 80.5 POST 104.7

** TEST S.D. PRE 26.99 POST 21.86

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* Large standard deviation is contributed to the range of Ukrainian language proficiency found among students in the program.

** Test Mean and test Standard Deviation are derived from all classes which participated in the system test.

"t"-test Results (two-tailed)

GRADE THREE

CLASS	N	A	B	C	D	E	TOTAL
1	4	.77 .495	-2.45 .092	-4.26 .024	-9.92 .002	-5.19 .014	-6.93 .006
2	10	-10.01 .000	-3.48 .007	-1.52 .164	-3.52 .007	-2.09 .066	-3.50 .007
3	13	-5.29 .000	-5.08 .000	-2.55 .025	-5.44 .000	-3.90 .002	-7.53 .000
4	25	-12.06 .000	-4.65 .000	-4.61 .000	-6.82 .000	-8.54 .000	-10.92 .000

GRADE FOUR

CLASS	N	A	B	C	D	E	TOTAL
1	8	-3.93 .006	-8.63 .000	-7.23 .000	-4.65 .002	-3.87 .006	-8.99 .000
2	9	-0.74 .479	-3.59 .007	-.065 .535	-4.09 .003	-3.92 .004	-4.00 .004
3	10	-4.83 .001	-2.75 .023	-4.20 .002	-2.25 .05	-5.25 .001	-5.94 .000

Upper diagonal = "t"

Lower diagonal = probability

INDIVIDUAL PUPIL ACHIEVEMENT AND GAIN SCORES

Student Number	Class Number											
	1			2			3			4		
	Pre	Post	Gain	Pre	Post	Gain	Pre	Post	Gain	Pre	Post	Gain
1	47	77	30	105	119	14	47	86	39	71	110	39
2	115	131	16	63	94	31	28	70	42	15	85	70
3	45	79	34	92	104	12	90	102	12	35	63	28
4	77	104	27	63	85	22	48	72	24	16	90	74
5	70	106	36	85	111	26	55	85	30	42	77	35
6	87	117	30	47	64	17	84	84	0	46	78	32
7	59	107	48	123	125	2	69	95	36	45	76	31
8	110	124	14	11	94	83	26	45	19	30	43	13
9	78	103	25	63	81	18	54	85	31	10	41	31
10	41	80	39	52	71	19	55	67	12	22	48	26
11	79	121	42	72	103	31	38	62	24	54	80	26
12	55	92	37	135	133	-2	62	99	37	41	71	30
13				55	75	20	52	86	34	75	98	23
14				104	117	13	67	88	21	79	103	24
15				66	82	16	58	99	41	51	87	36
16				106	109	3	122	125	3	10	61	51
17				34	49	15	77	107	30	71	110	39
18				105	115	10	50	91	41	53	81	28
19				119	128	9	62	89	27	58	92	34
20							50	60	10	43	68	25
21							69	93	24	61	93	32
22							43	56	13	30	47	17
23							54	77	23	39	80	41
24										33	53	20
25										33	42	9